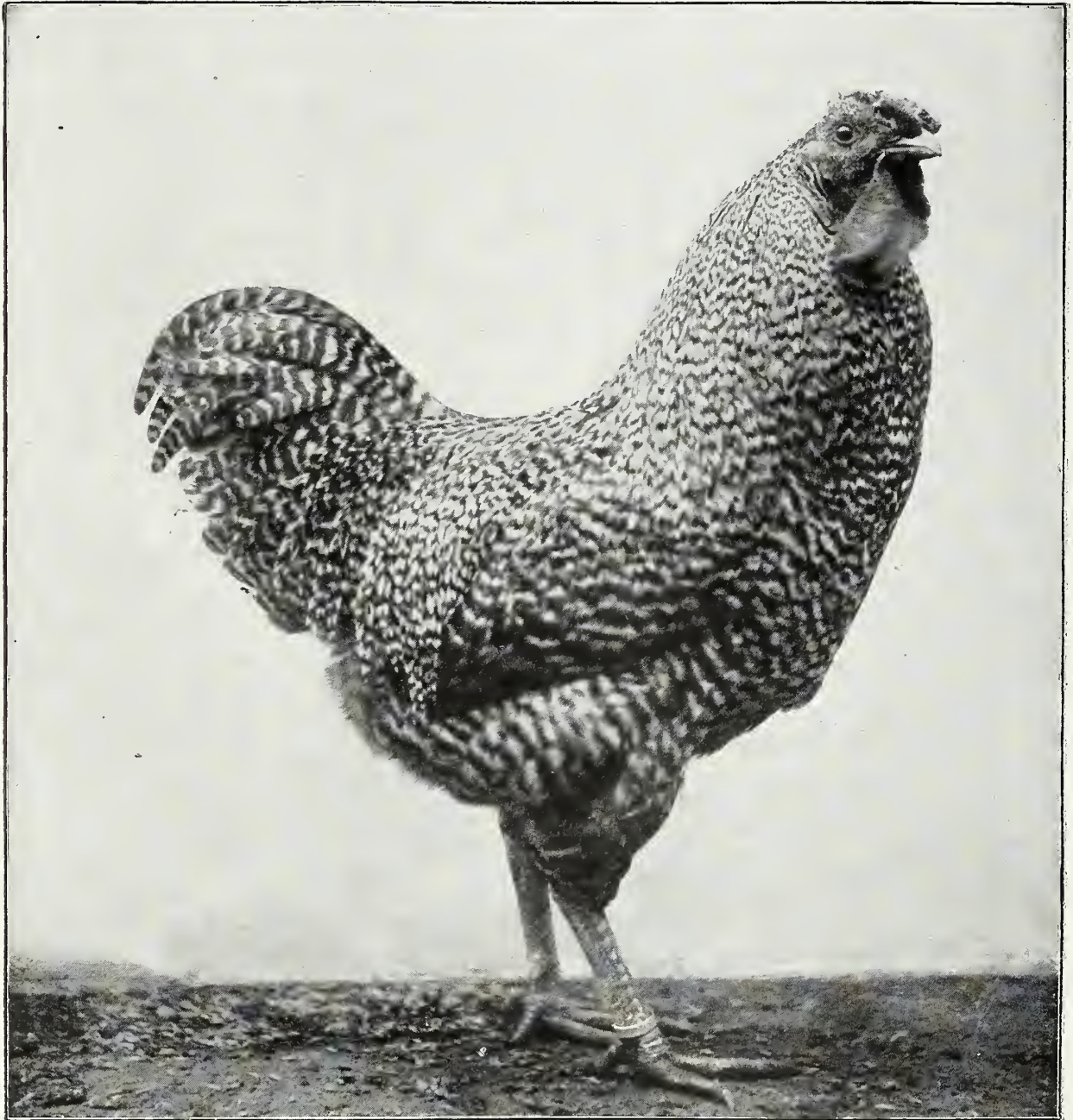


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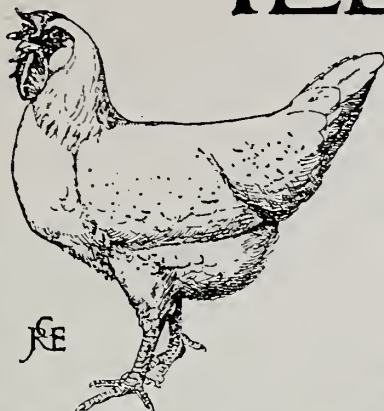


A DOMINIQUE COCKEREL.

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See Page 551.

THE ILLUSTRATED POULTRY RECORD



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DIARY OF THE MONTH.

EDITORIAL NOTICES.

Telegrams: "VIVACIDAD." Telephone: CITY, 2083.
ENTERED AT STATIONERS' HALL.

The Editor will be glad to consider any MSS., photographs, or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs, or sketches, and publication in the ILLUSTRATED POULTRY RECORD can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. All rights of reproduction and translation are reserved.

The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual Subscription to the ILLUSTRATED POULTRY RECORD at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to the ILLUSTRATED POULTRY RECORD.

The ILLUSTRATED POULTRY RECORD is published on the first of every month. Should readers experience any difficulty in securing their copies promptly they are requested to communicate immediately with the Editor. The latest date for receiving advertisements is the 20th of the month preceding date of issue.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

A World's Poultry Congress.

From time to time suggestions have been made for the holding of a congress of poultrymen truly international in its scope, thus bringing together from every part of the world those who are interested in development of the poultry industry, for the focussing of their knowledge and experience, and for consideration of the many problems which await solution. We understand that some steps are being taken in this direction, with the object of seeing whether such a gathering cannot be held in the course of the next two or three years. If these prove successful we expect to have at an early date some general announcement. We hope that the project may go forward. It involves many considerations, and is by no means easy of accomplishment. The importance of the poultry industry, and its rapid growth, means that the time is ripe for the holding of such a congress, and we hope it may be carried out.

Avian Tuberculosis.

It is announced that Dr. George B. Morse, of the United States Department of Agriculture, has made what may prove to be an important discovery—namely, that the bacilli found in cheesy growths of pigeons and around the eyes of roup fowls is not identical with the tubercle bacillus as hitherto assumed. The methods of testing these minute creatures is by what is termed staining, and it is in this direction that Dr. Morse has been led to suggest that there are two forms of bacteria. He has found that the tubercle bacillus holds its stain not only in the presence of acids, but also in mixtures of acid and alcohol, whereas the avian bacillus resists acids but not

acids and alcohol. To the lay mind the difference may appear infinitesimal, but the scientist knows that these small points are all-important, and generally indicate the differences between one disease and another. It would seem from what has reached us that the bacilli found in the cheesy eye matter of a roup-y fowl, in the yellow cheesy matter discerned in the mouth of a three-day-old chick, in that of a cankered squab pigeon, and in cracked Indian corn are identical, which, if proved by further investigations, may lead to great results. It is in these directions that poultrymen require the aid of scientists, and the misfortune is that during recent years nearly all discoveries of this class have been American or German. We await the result of Dr. Morse's further researches with the deepest interest. That the question of avian tuberculosis is of great importance is proved by the Report of the Royal Commission on Tuberculosis.

A Run on Belgian Breeds of Poultry.

Those who have been acquainted with the facts of the case have realised the economic value of Belgian breeds of poultry, some of which are the results of generations, perhaps centuries, of careful selection. But we were scarcely prepared to learn that France would become a larger importer of breeding stock from the Flemish and French Netherlands. Such, however, would appear to be the case, and to an extent that is alarming some of those who are mainly concerned in the progress of poultry-keeping in Belgium. It would appear that buyers from France are purchasing large numbers of fowls for distribution in different sections of that country. At one time we were accustomed to regard France as *par excellence* the home of poultry culture, and that it was all that could be desired in this direction, an example to be followed. For some reason not fully explained, for the last twenty years she has made no progress whatever, but, content to run on the old lines, has been left in the rear. Perhaps it may be that the absence of an impelling force, such as a growing population, accounts for this lethargy, as there has not been the pressure felt in other countries. If what is recorded above is an indication that the French authorities and people are awakening to the possibilities before them, we may see a similar change taking place over the entire country to that which has marked recent years in the north-eastern departments. It would probably be an excellent thing if some of the worn-out breeds are

replaced by Belgian races. Everyone will rejoice to see our friends across the Channel make a determined effort to regain the place they have lost, and to renew the excellent work done in the past.

Open Competition.

Exchanges from Australia record a difficulty which has arisen between the Minister of Agriculture and the Victoria Poultry and Kennel Club. As there is a somewhat important question of principle involved it may be referred to on that ground. The Government of Australia offers gold medals for competitions at the shows held by the above club, which, however, had made regulations so that for its ordinary prizes no one could compete who had entered at exhibitions not affiliated with it. For instance, a man who had previously shown at Northcote, under a non-affiliated society, had endeavoured to enter a bird for the club's class competition, and also for one of the State Gold Medals. His entry for the class had been refused because he had shown at Northcote. He had been informed, however, that he could enter for the State Medal, but his bird would not be fed, watered, or benched, and must be delivered at the show before nine o'clock on the first morning of the show, and removed between three and four o'clock in the afternoon. The Minister of Agriculture took drastic action, and gave notice that the medals would be withdrawn unless the club altered these conditions, pointing out as a pertinent fact that only nine out of the 113 agricultural societies in the State are affiliated with the Poultry Club. With that step all must agree. The use of public money must be on an equitable basis, and under the circumstances narrated the object of giving these medals would not be served. There is too much tendency in these days to impose restrictions, which defeat their object, often praiseworthy, by driving outside exhibitions and exhibitors.

Unsuitable Terms.

New words are ever being introduced, and our dictionaries grow apace. The advance of experience demands sharper definitions, while fresh meanings are being given to old words. These are not always desirable or correct. We have noticed for some time that representatives of American experiment stations have been applying the term "hybrid" to what we call crosses, and put it down to that straining after non-common appellations to which scientists are somewhat prone. Webster de-

finer a hybrid as "the offspring of the union of two distinct species," which is the generally accepted and correct meaning. Crosses are the offspring of two breeds of the same species. We are glad to see, therefore, *Farm Poultry* condemning the term hybrids when crosses are meant. We have surely a right to expect that experimentors and others will use terms which are correct. Another instance which has recently come under our notice is the use of the word "laboratory." An American book lately issued what is called a "Poultry Laboratory Guide," which is neither more nor less than directions for manual work for a student learning poultry-keeping. How measuring up houses, crate-fattening, and book-keeping can be termed laboratory work passes our comprehension. In both these instances "hybrid" and "laboratory" may sound dignified and academic, but as applied they are nonsensical, and this straining after effect is calculated to minimise the practical value of scientific work.

"How Food Accumulates and Hens Decay."

The problem of increased production is ever with us, and will become more and more pressing as the poultry industry advances. The editor of the *Irish Homestead* has evolved the terse saying quoted above which deserves to be written in letters of gold everywhere. Productiveness is not the result of luxury, but of hard, active life. Hens, as a rule, lay better where the conditions are rigorous than where they are soft and pleasant, as in the former activity is necessary to life, and exercise means vigour of the body and organs. After showing how that history teaches this lesson in relation to the human species, our contemporary, in reply to a correspondent, says that the hens getting food easily think it of no account, and do not set themselves to produce food. "There's lots of food in the world," they think, "and why should we, who are the crown and perfection of feathered things, worry about laying eggs and bringing up chickens?" This is common-sense based on experience. In this connection the paper reproduced in our pages this month, read at Orono, Maine, may be studied with advantage.

Dr. Frank M. Surface.

In the footsteps of Dr. Leon J. Cole, of Wisconsin, has followed Dr. Surface, who was formerly associated with Dr. Raymond Pearl in

poultry work at the Maine Agricultural Experiment Station, and is now Biologist at the Kentucky State Agricultural Experiment Station, where we hope he may be able to deal with poultry problems that are peculiar to the more southern sections of the United States, as much is there to be done. Dr. Surface is now paying his first visit to Europe, and is at present upon the Continent, including in his survey Belgium, Holland, Denmark, Germany, and France. Although he is devoting most of his attention to purely scientific inquiries, poultry is being kept in view. We hope he may have a successful, as he can hardly fail to have a pleasant, tour, and return more fully aware of the conditions of development on this side of the Atlantic. In this connection we cannot forbear telling a good "chicken" story, recounted by Dr. Booker T. Washington. Speaking of chickens, an old coloured man was in great trouble down South the other day. Asked what was the matter, his reply was, "Dreffer trouble at our place! I left the door of the fowl-house open last night, and all the chickens got out and went home."

Goose Plucking.

Can it be true that the plucking of live geese is still practised in Ireland? We hope not for the credit of our fellow-citizens across the Channel. But it is stated, on what appears to be good authority, that this business is still very prevalent. We know that at one time scores of thousands of these poor creatures were denuded of their quill feathers several times a year to supply writing instruments. We do not say even that justified the process, and have always felt a strong objection to the use of quill pens, but in these days even such a need has disappeared. The dilettantism of a few superfine individuals, or the desire of a limited number of public servants for something to fill up their days, does not warrant the continuance of a barbarous practice, the relic of times when the sufferings of lower creatures were disregarded altogether. Should what is suggested be true we hope that without delay those in authority will put forth every effort to stamp out that which is a disgraceful proceeding—one which, so long as it exists, casts a slur upon the character of any nation, even though the culprits be few in number. The plucking of live geese is illegal, and anyone guilty of it should be sent to hard labour without the option of a fine.

LAYING CONTESTS.

THEIR USES AND POSSIBILITIES.

By JOSEPH PETTIPHER.



WHILST we wait the pleasure of the Development Commissioners relative to the hoped-for grant which would enable our Utility Poultry Club to institute that long-talked-of twelve months' laying competition, let us for a moment consider whether we make the most and the best use of such contests, be they long or short. Without in any way reflecting on the abilities of the able men who so nobly devote much valuable time and brains gratis for the work, it may be worth while to note how things in that line are viewed by a poultry-keeping agriculturist, from whose crude notions there may possibly be picked a plum that had remained unnoticed on the branch by the experts. One of the most necessary reforms that strikes the writer is the need for some scheme whereby classes of competitors could be divided. Just as in the poultry fancy we see efforts made to provide opportunities for the amateur and the novice apart from the professional and the trader, so in laying tests there appears to be required some arrangement whereby farmers, and other people who keep utility poultry in the ordinary way, may be encouraged to enter a laying contest by the knowledge that they will compete with only a similar class on equal terms. Whatever amount of fact there may be therein, it is certain that a notion very largely prevails amongst the bulk of those who might be otherwise expected to enter such contests, that the prizes will inevitably go to professionals, who make a business of specially preparing sprinters just ready for the fray, and who, by such means, having either won first or otherwise secured an advantageous position, reap a rich harvest by making a business of it in subsequent sales. That such businesses exist is obvious, and they are to be commended. They fill a good mission, but under existing conditions they retard the progress of another and a larger and more valuable body of poultry-keepers, who, and with much reason, decline to enter into an unfair fight.

THE TRADING ELEMENT.

In the exhibition world many hard things are said about the trading element, but the grumbler would be the first to take advantage of a good sale at more money than he would otherwise get for his bird. And in possibly a rather different way the utility trader is equally useful. What appears to be most desirable is a proper division of the classes and a more tempting and adequate opportunity for those who, though not possibly exactly what might be termed amateurs, yet only keep poultry for profit, as an addition to their ordinary occupation, and not practically a separate business.

It is not the intention of the writer to suggest details of the various ways in which such classes could be divided. That is a matter for the wiser heads of those who have such matters in hand. It is enough to suggest the notion, and leave it to practical men to formulate, but a large and varied opportunity of ascertaining the views of various classes of poultry-keepers, and particularly agriculturists, is convincing proof that some such scheme is necessary if the interest of such classes is to be evoked, as it should be if the best advantage to the general poultry culture of the country is to be attained. If a laying competition is to be an educational work it must attract the interest, and be participated in by the ordinary poultry-keeper, and not be, as is at present the case, almost entirely in the hands of the professional, at all events so far as the fair opportunity of winning is concerned.

THE QUESTION OF HEREDITY.

Another important point, and one which may both be applied to the short contests at present in vogue, and also further thought out in readiness for the long-anticipated year's test, is that of paying more attention to hereditary results. To the looker-on at the game it seems that in, say, the four months' tests all

that is thought of is the weight and number of eggs laid during the time the contest lasts. Valuable opportunities of proving how far such desirable characteristics are transmitted to the offspring are allowed to slip by. It should surely be possible to make arrangements whereby tests of this kind could be followed up under official supervision. As has recently been shown during a somewhat heated controversy in a contemporary, there are some people who claim to have large experience in egg-production, who contend there is not, and never will be, a strain of fowls entitled to the term of "laying strain." And that, in order to produce good laying offspring, the 130 to 150 eggs a year hen must be bred from, rather than the one that lays over 200. While the writer hesitates to accept such a doctrine without proof he sees some reason in the arguments adduced, and looks for verification or denial from proved experiments carried out in connection with the laying competitions, and is not this the place where he may reasonably be expected to look?

THE MANAGEMENT OF THE BIRDS.

Next we come to the question of foodstuffs. Is it not possible that much more valuable information and data might be adduced from these various contests as to the relative value of various foods, by comparison under the similar conditions that exist during a laying test? Again, we leave out any details that we may have in mind. Suffice to say that the looker-on thinks more might be reasonably available. Housing is yet another point which, in common with food as to effect on the egg yield, and consequent added profit to the producer, might very well be much more practically tested than at present appears to have been done, and it is surely possible to run a test in which the contestants would be kept more under ordinary conditions, rather than in a way in which practically no ordinary poultry-keeper is able to keep and house his laying flock. It is not enough to locate the largest layer; the cost of production is an item of the utmost importance, and unless the eggs are produced at a profit there is little value in the test, because it is quite conceivable that if a test is won under a system of feeding too expensive to be profitable, under other and possibly profitable conditions results might very well be decidedly reversed. Whether the laying competitions be classed as educational, experimental, or scientific, matters little to the ordinary poultry-keeper, however much it may affect the views of the Development Commis-

sioners. What he wants to know is how to profitably produce more eggs, and how it can practically be done under his possible conditions and opportunities. In addition, he is open to learn what breeds as well as strains of breeds are usually best suited to particular conditions and localities, and in this matter there appears room for a more systematic arrangement of competing pens. It should surely be possible to arrange for a more general competition of *all* breeds, provided steps were taken by contest executives to ensure an entry of that description. Fertility tests and tests of vigour in the offspring are further possibilities in connection with laying competitions. Again, we frequently read in the manager's reports that certain pens or individuals have fallen into moult. Here again is an excellent opportunity to experiment and provide valuable data as to the most satisfactory way of treating them during this most trying ordeal. A great deal of the profit or loss of a year's working depends on how well and how quickly the moult is got over and done with and the laying recommenced.

TESTS FOR INDIVIDUAL BREEDS.

Finally we come to a possibility which may be said to be outside the pale of the Utility Poultry Club, and a matter rather for the Poultry Club and its specialist satellites. We refer to laying tests for individual pure breeds. At present there is far too wide a gulf—either imaginary or real—between the Utilityite (so-called) and the Fancier, though there is a tendency to narrow the gulf which requires encouragement, and no better encouragement can be provided than positive proof. The trend of things to-day is in favour of combination. The fancy and show bird should be useful, and the utility bird may just as well be handsome and typical of its kind. Once more to quote the looker-on. In this case the keeper of a good class of pure-bred fowls sees little incentive to put down a matter of five or ten shillings a year to join a specialist club and provide cups for the professional to win, or even prizes for novices of his own class. He wants proof of the presence of the utility combination in certain strains. Why cannot the clubs that profess to cater for individual breeds or varieties institute comprehensive laying tests—to include the various items above referred to—for their own particular favourites? We believe such contests would increase their membership roll many times over, and thus warrant an effort which would be extremely popular and rapidly increase in detail.

ONE MILLION FOUR HUNDRED AND FIFTY THOUSAND TONS OF EGGS.

THE VOLUMES AND VALUES OF IRISH AND FOREIGN SUPPLIES.

By "STATISTICIAN."



CONSIDERABLE as is the value of poultry supplied to the British markets by Ireland and foreign countries, as stated in my article on "British Imports of Table Poultry," published in THE POULTRY RECORD last month (No. 11, page 484), that is small as compared with the volume of eggs and the cash paid for the latter product. My study of the figures has revealed much of interest, which I beg to submit to your readers as an added proof, if one were needed, of the importance of these forms of the national food supply, more especially in view of declining imports from abroad. The fact that whilst the total bulk of eggs from British Colonies and foreign countries has been reduced by something like 8 per cent. in seven years, the total price paid is greater by 17 per cent. This has been shown previously, and is of supreme importance. It is only necessary to mention that such is the case. An advance in price of more than 20 per cent. is a serious factor.

As in the case of poultry, we have no returns of shipments from Ireland prior to 1904. The figures from 1904 to 1909 will be found in the May issue (Vol. III., pp. 338 and 339), and need not be repeated. By courtesy of the Superintendent of Statistics in the Irish Department of Agriculture, I am enabled to give the figures for 1910:

	QUANTITIES OF EGGS.	VALUE.
1910.....	6,227,820 gt hds.	£2,744,138

In respect to quantities, shipments of eggs from Ireland were greatest in 1907, and reached the maximum in values in 1909.

In respect to foreign countries and British Possessions, the maximum of quantities was in 1904, and that of values in 1910. I have obtained, by kindness of the Statistical Department of H.M.'s Customs, fuller details for the last ten years than are published in the Trade and Navigation Returns, but these would occupy too much space. Therefore, a comparison is made in Table No. I. between these two years:

TABLE I.—COMPARATIVE QUANTITIES AND VALUES OF EGGS IMPORTED FROM FOREIGN COUNTRIES AND BRITISH POSSESSIONS.

From	1904.		1910.	
	Quantities.	Values.	Quantities.	Values.
Foreign Countries—		£		£
Austria-Hungary ..	200,540,000*	601,121*	164,414,000	555,998
Belgium	114,474,000†	204,023†	10,249,000	37,289
Bulgaria	Nil	Nil	158,000	554
China	Nil	Nil	121,000	399
Denmark	432,279,000	1,461, 59	437,656,000	1,732,107
Egypt	68,677,000	142,192	69,987,000	186,6 8
France	203,834,000	710,057	108,912,000	417,545
Germany	225,963,000‡	590,040	60,877,000	200,860
Italy	187,575,000*	633,097	89,621,000	350,238
Madeira	Nil	Nil	17,000	59
Morocco	43,599,000	116,989	38,786,000	104,394
Netherlands ..	12,227,000	12,051	71,139,0 0	253,779
Norway	1,000	4	21,000	106
Portugal	3,80 ,000	12,051	1,182,000	5,116
Roumania	Nil	Nil	22,000	65
Russia	843,949,000	2,042,520	1,106,110,000	3,282,194
Spain	4,094,000	12,618	2,551,000	9,792
Sweden	9,068,0 0	27,449	37,240,000	146,355
Turkey	1,725,000	3,841	2,005,000	5,547
United States of America ..	3,016,000	9,548	—	4
Uruguay	14,000	42	Nil	Nil
Total Foreign ..	2,354,848,000	6,600,564	2,201,068,000	7,295,021
British Possessions—				
Australia	1,000	5	Nil	Nil
Canada	38,127,000	129,631	2,3 000	1,097
Channel Islands ..	92,000	284	Nil	Nil
Malta	43,000	90	Nil	Nil
New Zealand ..	Nil	Nil	6,000	27
Total Brit. Poss..	32,263,000	130,010	229,000	1,124
Grand Total ..	2,393,111 000	6,730,574	2,201,297,000	7,295,145

* Separate enumeration for Austria-Hungary and Italy commenced in 1905, which figures these are. They have been deducted in 1904 from Belgium and Germany respectively.

† Less Italy in 1905.

‡ Less Austria-Hungary in 1905.

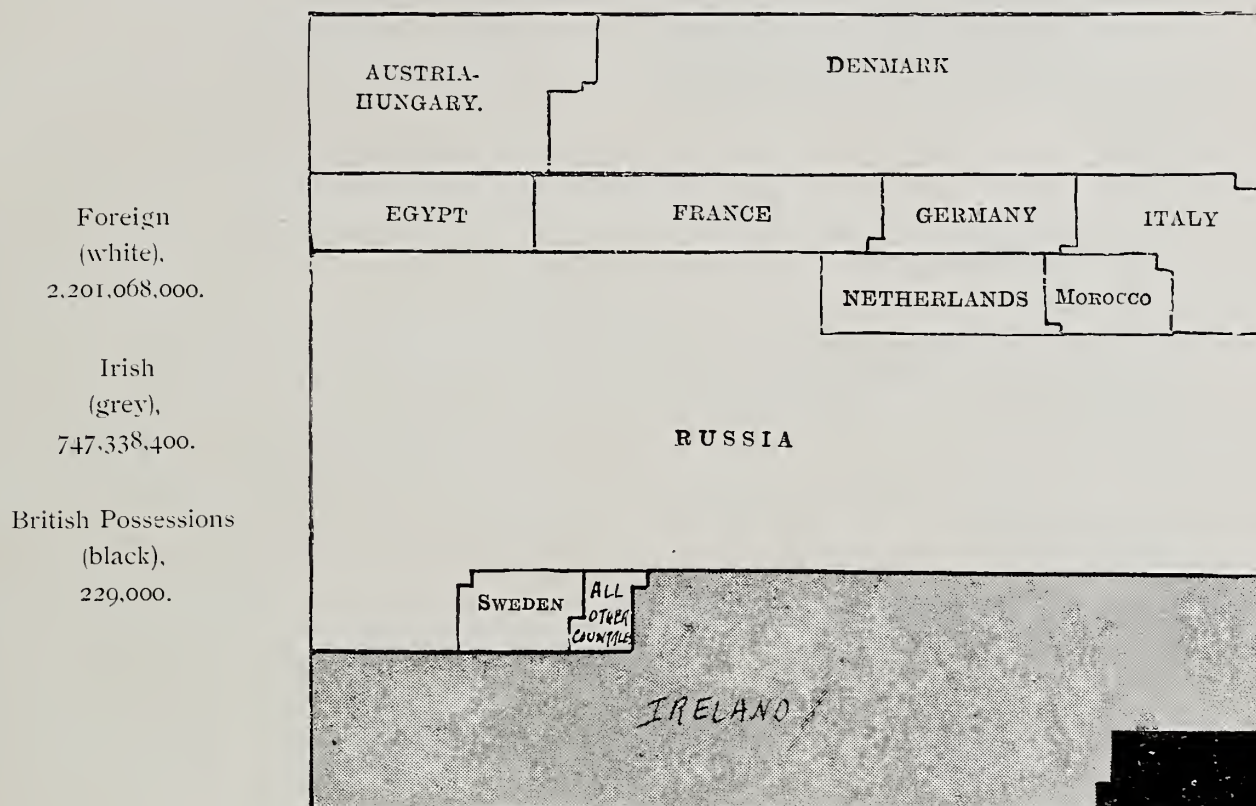
The variations are interesting. So far as quantities are concerned the only increases of any moment are from the Netherlands and Russia, but these are far from compensating for the large decreases from Austria-Hungary, Belgium, France, Germany, Italy, and British Possessions. The total decrease is 191,814,000 eggs (about 13,325 tons), and yet the money paid was £565,571 greater.

As in table-poultry, the most pregnant fact is the decline in supplies from British Possessions, which at one time promised to grow

very largely. Small and unimportant though these were in 1904, which was not the maximum year, for in 1901 we received 85,064,000 eggs, these have now dropped to less than a quarter of a million, so that they are now infinitesimal and of no moment on our markets. An equal amount to the total quantity from British Possessions in all the

the seven years 1904 to 1910. From the fact that the Irish figures are only obtainable from the first-named of these years, I cannot complete the decade as I should have wished to do. The figures are startling, as shown in Table II., in which the numbers and weights are given, the latter on the regular rate of ten cases (of 1,440 eggs) to the ton.

DIAGRAM I.—SHOWING THE RELATIVE QUANTITIES OF EGGS IMPORTED INTO GREAT BRITAIN IN 1910.



[Copyright.]

year 1910 is consumed in London every $2\frac{1}{2}$ hours.

In order to show the relative quantities of eggs imported into Great Britain last year, I have prepared Diagram I., which will help to convey the meaning of the figures in Table I. Whilst Russia stands first, Ireland is easily second, with British Colonies hardly appreciable.

Further, in Diagram II. will be seen the variations during the last ten years, also indicating the relative position of each of the countries named. The other countries scheduled in Table I. could not be included as their shipments are too small to be shown, save Belgium, which was omitted by reason of the fact that in the earlier years (1901 to 1904) Italian shipments were credited to that country.

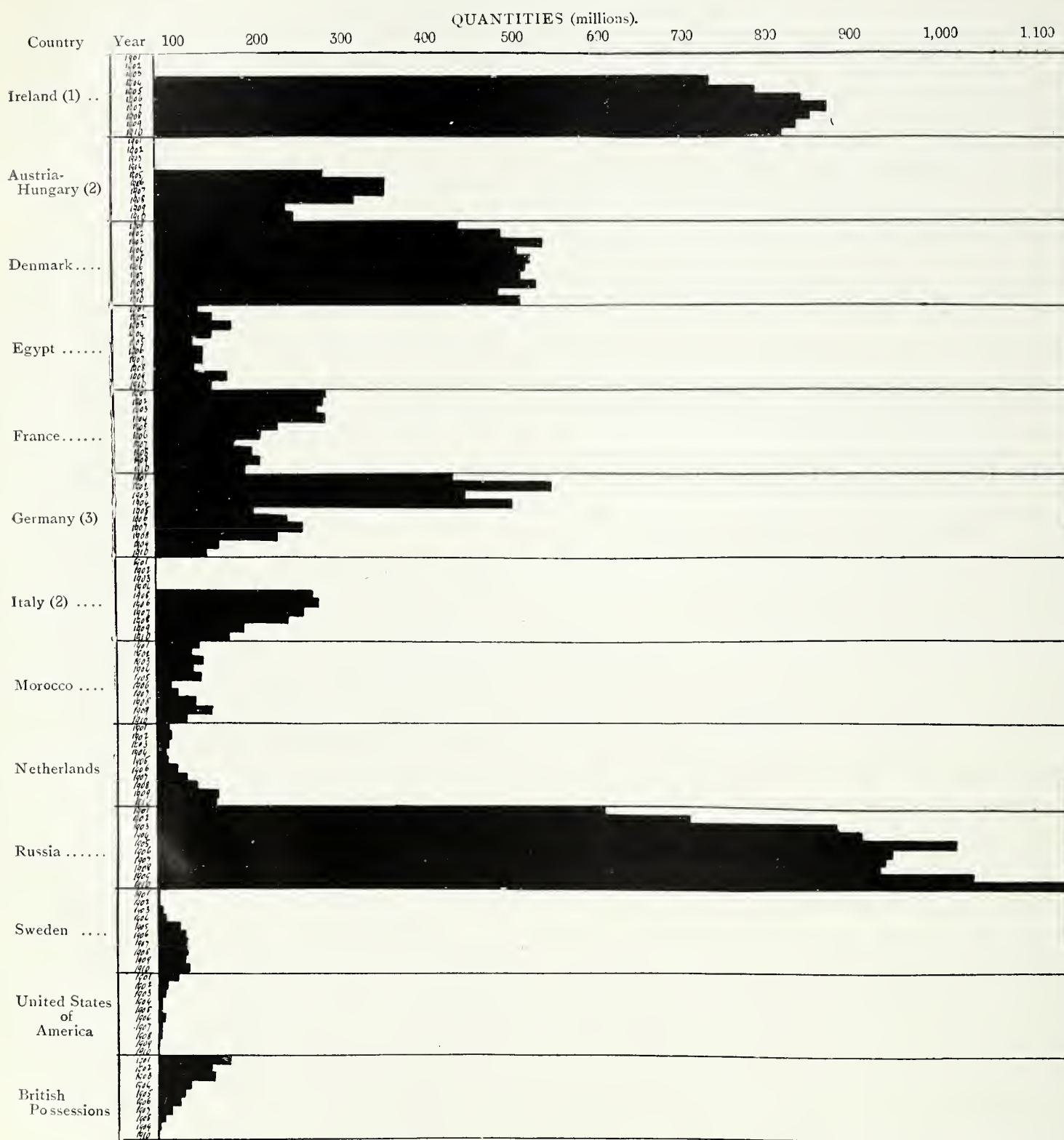
We can now obtain an idea of the vast quantities of eggs imported and the great amount of money expended for them during

TABLE II.—Total Quantities and Values of Eggs imported during the seven years 1904 to 1910.

SECTION 1. QUANTITIES.		
From	Quantities	Weights (in tons)
Foreign Countries	15,537,582,000	1,079,000
British Possessions	118,036,000	8,197
Ireland	5,255,643,360	364,975
Grand Totals..	20,911,261,360	1,452,172
SECTION 2. VALUES.		
From	In £ Sterling	Percentage of Total Value
Foreign Countries	49,057,670	72.52
British Possessions	432,181	0.64
Ireland	18,154,114	26.84
Grand Totals..	£67,643,965	100.00

In the above it will be seen how important

DIAGRAM II.—RELATIVE IMPORTS OF EGGS TO GREAT BRITAIN FROM
VARIOUS COUNTRIES, 1901-10.



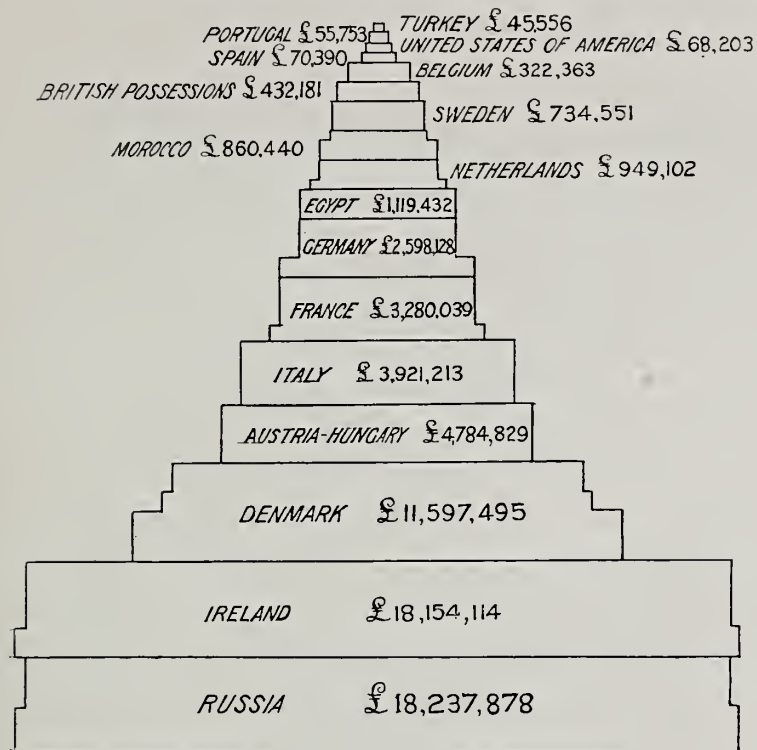
[Copyright.]

(1) Enumeration only from 1904 ; (2) Enumeration from 1905 ; (3) Great decrease in 1905 due to revised enumeration.

a place foreign supplies have on our egg markets, and how a continuation of the decline already noted must be met by increased production within the United Kingdom. It is evident that the Colonies are not to be depended upon, and that they find the home consumption as great as they can cope with.

In Diagram III. is shown the relative total values of eggs from seventeen countries (or groups) over a period of seven years—that is, from 1904 to 1910 inclusive—from which it will be seen that Russia is slightly in excess of Ireland (£83,764), and that these two sources supplied Great Britain with nearly 54

DIAGRAM III.—THE PYRAMID OF EGG IMPORTS SHOWING THE TOTAL VALUES FROM VARIOUS COUNTRIES FOR SEVEN YEARS, 1904 to 1910



[Copyright.]

per cent. of the total imports. If the values of Irish eggs included delivery to English ports, as do the foreign, and those sent by parcels post, there is no doubt whatever that in respect to values, but not as to quantities, for Russian supplies are much cheaper, Ireland would easily rank first. Upon such a result we can warmly congratulate all concerned in promotion of the poultry industry across the Irish Sea.

Further, and finally, I am now able to give the totals as to eggs and poultry for the last seven years.

TABLE III.—Total Values of Imports of Eggs and Poultry, 1904 to 1910

From	Eggs	Poultry	Totals	Percentages
Foreign Countries ..	49,057,670	6,362,722	55,420,392	69·3
British Possessions ..	432,181	81,843	514,024	0·63
Ireland	18,154,114	5,890,716	24,044,830	30·07
Totals..	67,643,965	12,335,281	79,979,246	100·00

When the Production Census, taken in 1908, is issued we should be able to estimate what proportion the above bear to the British consumption of eggs and poultry.

POULTRY THROUGH THE MICROSCOPE.

X.—CURIOSITIES OF POULTRY MANURE.

WRITTEN AND ILLUSTRATED BY JAMES SCOTT.

THE *Journal of the Board of Agriculture* for March, 1907, contains an article on "The Value of Poultry Manure," written by Mr. Edward Brown, F.L.S., and Mr. Will Brown. It was while reading this essay that the idea occurred to me that those concerned with poultry might like to see some of the curious phases of poultry manure, and to have a brief outline of its value. Those who wish for fuller details are referred to the necessarily technical article named, which, while it has no illustrations, is full of figures and suggestions of the kind most profitable to poultry-keepers. For my part, I shall confine myself chiefly to the microscopical features of the subject.

Very little has been written upon this matter, which has received but scant attention from chemists, so that the subject is fairly novel. Most gardeners already know that the substance is rich; but they cannot learn—apart from the article named—of what it is composed. The experiments were conducted at the late College

Poultry Farm, Theale, over a period of twelve months; and the analyses were made by Mr. J. W. Taylor, agricultural chemist. Average birds were tested in wooden-floored cages.

Although, as may be expected, it is a rather unpleasant topic personally and minutely to investigate and examine, and is perhaps rather indelicate for the average magazine reader, I dare say that the interest centred in it will outweigh the drawbacks. Think of it simply as a natural product, and there can be nothing offensive about it. Many of the artificial fertilisers unhesitatingly fingered by ladies in their hothouses are the outcome of far more objectionable material than that with which we are dealing.

After procuring some manure in as clean and soil-free condition as possible, I stirred it up in water and allowed it to stand undisturbed for a few days. Then I commenced my experiments with it, making several more than are here described. I first placed some of the liquor on a glass slide and allowed it to

evaporate. It left a patchy residue or dirty greyish smudge, with a brownish ridge partly round it. Upon magnifying this unattractive smudge many points of peculiar interest were found in it. In several portions of the



Fig. 1.—Some liquefied manure of fowls, dried on a glass slide, and magnified through a pinhole. [Copyright.]

speckled residue the atoms of matter had arranged themselves, during the drying or evaporation, into fantastic rosette patterns, among which were deposited more symmetrical and tinier, boat-shaped items. There was nothing about the objects to compare with the clear-cut crystals of purified chemicals, yet there was obviously a designing force at work even among this diminutive scrap of rubbish.

The irregular-shaped, dot-like specks, quite invisible to the naked eye, were grouped together into these rough formations, like worn-out, or decomposed, crystals that had once been perfect in outline. These are depicted in Fig. 1.

I next mixed a drop or two of nitric acid with some of the original liquor, and after placing the compound on a glass slide it was heated until only a film remained. There was a brown ridge round this also, and upon magnifying this elevation I saw several sights worth illustrating. In Fig. 2 is given a view of it precisely as I saw it. While here, likewise, was a crudity of formation, there was evidently a governing law of arrangement. Differences of structure were noticeable, yet there seemed to be a similarity among the variations. Connection could be traced between opposite extremes in the figuring. It should be remem-

bered that the spaces being examined were so insignificant as to equal mere pinholes in dimensions; so that the amount of detail discernible was really marvellous, considering that the material was nothing more than dissolved rubbish. In the brown rim round the drop of liquor without acid additions similar, but less emphasised, designs were discoverable.

It is a waste-producing practice to heap the substance in the open air, because the rain washes out the soluble portions—an idea of these is given in Fig. 1—while fermentation and consequent heat drives off the ammonia and other valuable nitrogenous gases. By the way, the ammonia can be smelt strongly when the liquid is artificially heated. The best way systematically to deal with it is to spread it evenly and thinly over trays, and then to stack these in a dry, airy shed. Best results are obtained by alternating it with layers of clean earth at the rate of one part of the latter to two parts of itself.

A couple of dozen birds of the average weight of six pounds twelve ounces each, about sixteen months old to commence with, would yield a ton of moist manure in twelve months. Of course, there would be uncontrollable variations according to the health and vigour of the fowls. It has been stated by the authors of the article that a farmer having a hundred hens and six cocks would get four tons of

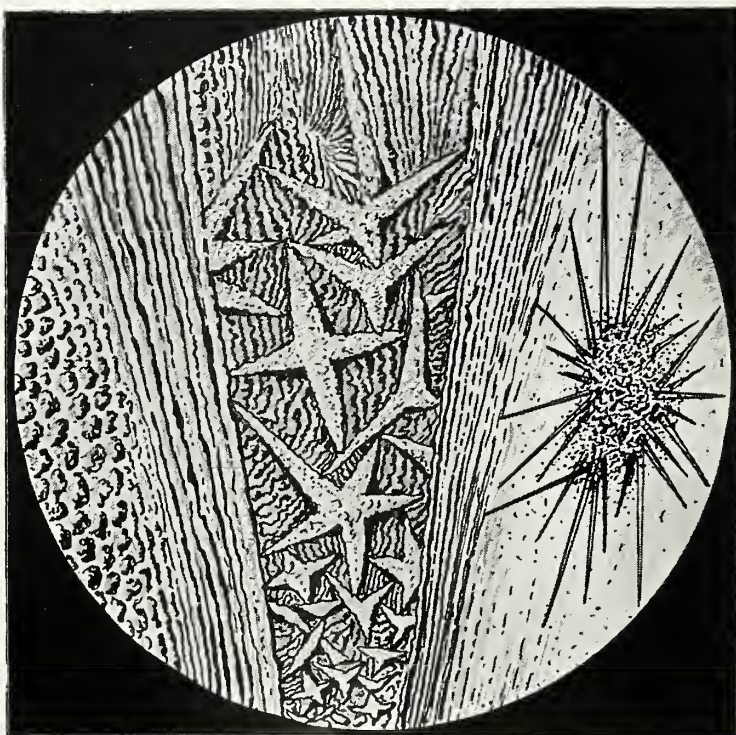


Fig. 2.—A pinhole view, magnified, of heated, liquefied fowls' manure to which a drop of nitric acid had been added. [Copyright.]

fresh manure from them every year, rich in phosphoric acid, nitrogen, and potash—the very

foods that plants require for their development and strength. The addition of mineral superphosphates (bone ash and sulphuric acid) at the rate of one part for every five to six parts of fresh manure constitutes an all-round, com-

SOME SMALL ECONOMIC BLUNDERS.

By MISS A. S. GALBRAITH.

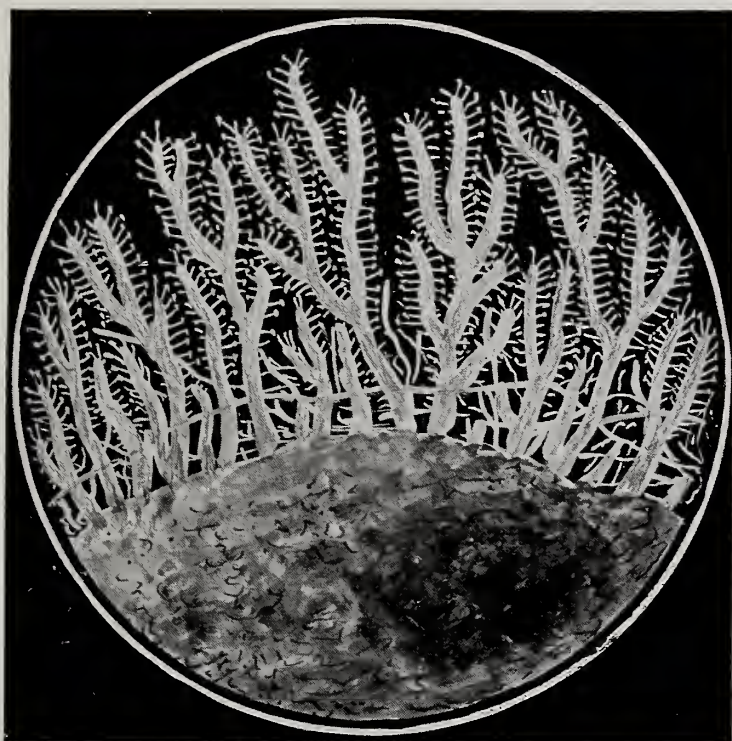


Fig. 3.—When fowls' manure is heaped it gets covered with moulds and mildews, which cause it to ferment. One example, magnified, is shown above. [Copyright.]

plete fertiliser. The nitrogen and potash go towards creating strong, abundant foliage, stems, and roots; and the phosphoric acid increases flowering and seeding.

Nitric acid (*aqua fortis*) is derived in the soil from the bacterial decomposition of plants, and can be also produced synthetically. In contact with the bases mentioned, it yields nitrates of potash, soda, lime, and magnesia. Acetic acid exists in small quantities in plants, and in larger amounts in trees and shrubs.

The principal feature to guard against is undue fermentation, which will rob the material of a lot of its worth. If a heap of the moist, exposed stuff is closely examined after a few days' storage, various moulds of different tints will be found covering it. These are microscopic fungi, whose root threads, or *mycelia*, travel right through the mass in every direction, feeding upon its nutriment, and will eventually reduce it to a useless pack of débris. As the fungi have different scientific names—sometimes half a dozen—it is not of much avail to append any, but I may as well say that the specimen shown in Fig. 3 is generally called *Isaria citrina*, and is white and feathery upon a yellowish base.

THE profits from utility poultry being so small and the labour so great we are constrained to consider and reconsider our arrangements, with a view to eliminating all those methods of doubtful economy to which increasing experience opens our eyes from time to time. One of the most serious blunders that beginners, and many others, are apt to fall into is that of supposing that there is only one way of running a poultry establishment—the way their fathers did before them, or the way they were taught at County Council School or College. There are a hundred ways, all equally good, but not all equally suited to every occasion, and each one must fight out for himself the method that fits his conditions.

But there are some points upon which there is such a consensus of opinion that we are apt to accept them without question. On one or two of these time has led me to differ very widely from the accepted authorities, probably because the conditions I have to deal with have been so unusual.

The first point of disagreement is the discarding of all hens at two and a half years of age. This is the stereotyped advice and method of practically all experienced men. But in the daily conduct of a small farm I have found many considerations which have led me to another method—namely, the selecting of the few very best birds each year and running them on for as long as they remain profitable, and many do so up to six years. For the last three years in succession the old birds have been the mainstay of the place from July, when the pullets were in full moult until November, when the young birds were in lay and their eggs had attained a good size.

The facts we have to weigh are not merely the number of eggs laid and the proportion produced during the winter season; there are many other considerations which press themselves home to those who have not unlimited acres, unlimited strength, efficient assistants, and abundant capital. To those who have all these latter the expenses, profits, and difficulties are wholly different in character from such as confront the small poultry-keeper with limited capacities and but two or three hundred birds.

Pullets lay more eggs than old birds, they lay them from October onwards, they moult about midsummer, when eggs are cheap (all save the heavy layers, who usually lay on into

November, and moult when eggs are twopence each). But this summer moult produces a blank in egg-production, and with contracts to fulfil the late summer egg is as necessary as the winter one. The blank is not always well filled by the two-year-old birds, but I always find that the three to five year olds, who have rested in winter and who also rest in May, are comparatively fresh for summer and early autumn. It is a matter of selection and feeding.

Customs change with experience, and I note that experts now no longer advise farmers to get rid of their old birds in July; the time is extended to September and October. And this change is due solely to two causes—the improved results since selection has become more general, and the more rational feeding now adopted, which permits birds to remain much longer in profit. The men who used to tell us that old hens would not lay more than a dozen eggs between July and Christmas, fed their birds largely on barley meal and maize. I have even read the astounding menu of half barley meal and half middlings for summer feeding! Small wonder that eggs were scarce. With less fattening fare hens now lay well until November, and I look forward to a time when laying strains will be so perfected, and our knowledge of feeding so improved, that the whole flock may be kept on for several years. The saving in chicken-raising would be enormous. At present this is not possible, but the best birds ought to be selected and kept as long as they show a fair profit, wherever there is any limit to the rearing of chickens. Except for the building up of laying strains it does not pay to trap-nest all the year round, but it is possible to select in the following manner. During April, or preferably March and April, all the traps are set going, and no pullet laying fewer than nineteen eggs per month is run on to the second year, while no old bird who lays fewer than fifteen eggs during April is permitted to survive the May rest. At this time the birds have free range, and no meat is supplied, and experience has shown that a bird who does not lay these numbers will never do much. On the other hand, all birds who exceed these will generally be found to lay well from July or the commencement of August onwards. They are much more reliable than early-hatched pullets, and they give eggs weighing nearly an ounce more. Indeed, the size of their eggs is almost a drawback, for customers are apt to look askance at mere pullets' eggs when the old birds fall into moult.

On a small establishment the drawbacks to early-hatched pullets, for summer and autumn

laying, are serious. First, it implies two sets of breeding-pens, adding greatly to the work and drawing off eggs for hatching just when the winter supply is low and good prices can be obtained for them; eggs are less fertile, and may even be frozen; extra male birds must be kept and young chicks reared at the most treacherous season of the year—this means extra expense in providing shelter, and where February or March gales are severely felt the ordinary coop is totally inadequate; indeed, it may be found in the next parish after a stormy night, and the chickens nowhere. Then we have the very serious difficulty, one which is growing more intensified each year—namely, that of preventing early-hatched birds from laying before they are sufficiently matured, so that their eggs may be larger. It is almost a physical impossibility to keep February-hatched pullets of good laying strain from commencing at four to four and a half months old, consequently their eggs never attain a good size. But if we do succeed in preventing the February- and early March-hatched birds from laying, it is only by constant moving. This entails more pens, different sets of pens for each month almost; on a small place of a few acres the old pens can scarcely be out of sight, so that if the birds are of light breeds the wire bill far outweighs any advantage to be gained, and those who make egg-production their chief object rarely keep any but light or medium breeds; at least, those who make it profitable. Such high fliers cannot easily be controlled. In fact, for the ordinary small farmer these considerations are usually enough to compel him to dismiss the idea, and so I find that those who do not run on their carefully-selected old birds are generally in difficulties from August till November.

Set against these expenses and worries, the only two drawbacks to old hens, the labour of selecting the best, and the fact that they lay fewer eggs than the young birds, and it will be seen that it pays to keep all old hens who average 120 eggs a year. The proportion that do that is larger than many would think; indeed, for some years I have found that the profitable ancients numbered as much as a third of the total flock, and the saving of space and labour on chicken rearing made ample amends for the slightly diminished egg output. But the success of this method entirely depends upon good strain, careful selection, and, above all, judicious feeding. In the questions of feeding, weight, size, and breeds, there are many other blunders that the small poultry-farmer falls into, which I hope to treat of another time.

WHO'S WHO IN THE POULTRY WORLD.

MR. JOHN DRYSDALE.

THE poultry industry is making marked progress in Scotland, and an important share is being taken by Mr. John Drysdale, secretary of the Scottish Agricultural Organisation Society, as that body is responsible for promoting the adoption of improved methods of marketing produce. Within the last few years it has founded no less than



MR. JOHN DRYSDALE.

thirty-six district poultry societies for this purpose, and the movement is spreading in every direction, with marked results in better breeds, better management, greater production, and better prices.

Mr. Drysdale combines the qualifications of a practical farmer and a strong believer in the profitability of poultry as a branch of agriculture, having proved that in practice during his many years residence in Stirlingshire, whence he removed on appointment to his present position. His is, therefore, no perfunctory advocacy of the poultry industry. A genuine son of the soil, descended from many generations of yeoman farmers, tracing in direct succession from 1503, he was born in Clackmannan, at the foot of the Ochil Hills.

By the early death of his father he was called to undertake responsibilities by taking management of the home farm in the interests of his widowed mother and her family, which he bore for several years, meanwhile steadily improving himself by self-education. A call came then to take charge of a large farm in Stirlingshire, upon which dairying, and afterwards poultry-keeping, were important branches. Everything was carried out on progressive and scientific lines. There he remained for twenty-one years.

As a strong utility man, Mr. Drysdale early became alive to the advantages of the Colony system of poultry-keeping, placing the birds out on untainted land. Portable houses are, in his judgment, a necessity to the farmer. He believes in pure breeds, but regards strain as of primary importance, and his preferences are by no means restricted. He has kept many classes of poultry, but mainly those which are best adapted for egg-production. Therefore, he brings knowledge and experience to bear upon the task he has undertaken. With dogs—collies and Scotch terriers—he has had considerable success as a breeder. It was a visit to Denmark which led to his recognition of the important part co-operation is bound to play, and ultimately to his becoming secretary of the S.A.O.S.

It is impossible to enumerate the public services of Mr. Drysdale, who has ever been busy in all forward movements—local and national. He has been President of the Scottish Chamber of Agriculture, and the recipient on various occasions of tributes to his labours. A tremendous worker, the calls upon him are many and varied. It is a great asset for poultry development in Scotland that he is at the helm and in a position to guide in what is one of the most important branches of the work.

MR. GEORGE R. CHIPMAN.

WHEN anyone advocates a new system a natural inquiry is, what is his experience, and does he know what he is talking about? It was suggested, therefore, that to answer such a question with regard to the subject of this sketch would serve a useful purpose. Sundry Americans have come over here, inadequately equipped with knowledge themselves, mislead by their newspapers talking as if Britishers are an effete race and know nothing. We opine Mr. Chipman is not one of these.

His interest in poultry goes back to his childhood, and is inherent. Living at that time in California, various breeds were kept, and from eight years of age he was accustomed to look after the birds. In 1898 his parents removed to Japan, and he went with them, but three years later through ill-health had to return to California, where he took up horse-breeding on a ranch near the great poultry centre, Petaluma. Poultry were kept, but not on a systematic basis. He again was called to Japan through the illness of his mother, and when in Asia travelled extensively through

China, Formosa, and the Philippine Islands. It was in the last-named that he bought some Philippine game fowls, and was soon in full swing with poultry once more.



MR. GEORGE R. CHIPMAN.

Going back to America, Mr. Chipman found great strides had been made during his absence, and he devoted a year to the study of the new methods, intending to settle in the Southern States; but coming to England to be married, he was so charmed with the Old Country that he decided to remain, and to attempt the combination of exhibition and utility, as he is firmly convinced that the two should be closely affiliated. The results of his efforts everyone will follow with interest. Hitherto the two have not been found compatible, at least, in the majority of breeds. The foundation of his stock has been laid by some of the best specimens obtainable in this country and America.

MR. WILLIAM RICE.

MR. RICE has been for thirty years connected with the publishing and advertising departments of the *Journal of Education*; but, in addition to this, together with Mrs. Rice, he runs a highly successful poultry-farm at Rettendon Common. He is vice-president of the Poultry Club; while he is a regular and valued contributor to the English

and American poultry papers. Our contemporary, *Poultry*, which claims to have "discovered" Mr. Rice's talents in poultry journalism, recently gave some particulars of his career.

Mr. Rice had some experience with Golden Pencilled Hamburgs in the 'seventies, and in the 'eighties with Barred Plymouth Rocks. He has now very little time to spare, we imagine, since he travels over 20,000 miles a year, so that the poultry-breeding has been lately left in the capable hands of Mrs. Rice; and events have demonstrated that his "better half" has not neglected her work. One of the present attractions of Haylands' Farm is "John Willie," a remarkably good-coloured White Orpington, bred and reared there, who has gained many prizes in open competition at the Dairy, Palace, Ayr, Aberdeen, Royal Counties, and other shows. With the variety Mr. and Mrs. Rice have gained the premier award at Chelmsford for the past three years, at Hadleigh, and the Grand United Metropolitan shows for two years, and many other first and special prizes. Nor is this the only breed, since they have been very successful with Black and Buff Orpingtons, White Wyandottes, Rosecomb Rocks—their own very much debated sub-variety—and Silkies, while among more recent varieties they have taken in hand may be mentioned Blue Orpingtons, Red Wyandottes, and Black La Bresse.

Mr. Rice has taken a very decided line on many questions of the day, but he has not made a single enemy. He has written much verse, some of which he has published in a booklet called "Poultry Types," an excellent little collection and well worth reading.



MR. WILLIAM RICE.

PREPARING FOR THE SHOW-PEN.

By GEORGE SCOTT.

THE time is at hand when the show season commences in real earnest, and from now to the end of the year the exhibitor will be well employed in keeping his show specimens in that state of physical fitness which is so essential in order to compete successfully with other specimens.

Generally speaking, the amateur does not thoroughly recognise what preparation for exhibition really means. It is not sufficient, as the uninitiated think, to pick up a bird a few days before the date of the show and clap it into a coop or training-pen, with the expectation that it will appear on the day of the exhibition in that condition of well-groomed immaculateness which marks the representatives of the professional exhibitor's yard. Such a course is sometimes successful—when the show is one of only local importance, or where the entries in the class are so few that every exhibit gains a prize—but one cannot expect such strokes of luck to fall to one's lot many times running, and one soon tires of showing when other people are annexing all the prizes.

Preparation for show, as the professional exhibitor understands and practises it, starts long before a bird reaches the age and size when it can grace the show-pen with any prospects of success. The confinement in the training-pen, and the washing and legitimate trimming immediately before the show, are but the final touches, the polishing, as it were, of the bird, which for months past has been specially cared for and prepared by a master craftsman.

Sun, wind, and rain have their effects on the plumage of young and old stock, and once this gets weathered there is no remedy until the natural moult provides a fresh covering. The novice is apt to think that only the light and apparently delicate colours, such as white and buff, suffer through exposure to sun and rain; but while birds of these hues are certainly affected to a greater extent than those of more subdued tint, the feathering of all breeds and varieties suffers more or less through exposure. It is for this reason that the professional selects his most promising youngsters and places them in large scratching-sheds, to the confines of which they are restricted during the middle of the day when the heat of the sun is to be feared, and at such times as the weather is unpropitious. Some fanciers, however, are so favourably situated as to be able, to a large extent, to dispense with these artificial methods of providing shade: Large overhanging trees or bushy shrubs provide abundance of shelter from the burning rays of the sun; and, where circumstances permit the utilisation of such natural resources, the most promising birds should be penned where the vegetation is profuse.

Condition plays an important part, and many are the instances where a good bird has had its qualifications so severely discounted through its *deshabille* as to be beaten by another bird intrinsically of inferior merit. In these modern days of showing, competition is very, very keen; and, at many of the large shows, there is not much to choose in the several birds which get into the money. The pro-

fessional, being perfectly familiar with and thoroughly grasping this keenness of competition, lets no detail—however trivial such may appear to the tyro—be overlooked, for he knows well that a single neglected point may make all the difference between a consolation award and a first prize. A specimen that has been badly washed, one with legs that have not been thoroughly cleansed, or with stained plumage, stands no chance when the big exhibitor is on the warpath—and few shows, however small, are there to-day at which the much-abused deck-sweeper does not put in an appearance.

A thin bird stands little chance in the exhibition-pen, and although overfatness is a condition to be avoided, it is better to err on this side a little than have the bird too lean. The evils of overfeeding have been so thoroughly drilled into the novice during recent years that he often carries the precepts too far and one sometimes sees birds penned which are lean to the verge of attenuation.

During the month preceding the show the birds should be fed generously. Stewed linseed, or linseed meal, mixed in the soft food, should be given occasionally as this has the effect of heightening the sheen on the feathers—a point of no little importance. Milk is an excellent conditioner and should be given in place of water.

The birds intended for exhibition having been reared with every care and got into good condition, they must be placed in training-pens or, failing these, small coops with latticed or wire-netted fronts, for about a fortnight prior to the show. Although these pens or coops are termed small, they should not be of such meagre dimensions as to prevent the occupants from moving with freedom. Much depends on the particular fowls to be confined, but from two feet to two and a half feet square is a convenient size for the pens. Those who show extensively have special buildings fitted up with training-pens, but the occasional exhibitor will find that a couple of pens fixed in an out-building or in a disused poultry-house will suffice to meet his requirements.

The objects of such strict confinement are to get each bird used to the exhibition-pen and to render it familiar with the judging stick, so that it will not fly against the wires when the judge gently prods it through the bars. The novice at showing does not sufficiently realise the importance of having his exhibit perfectly tame and properly trained. A bird which has never seen the interior of a training-pen before will, in nine cases out of ten, cower in the corner furthest from the front, and in such a position it compares most unfavourably with the carefully-trained bird which stands well to the front with proud and fearless mien. Judges are only human and are apt to pass an exhibit which flies about the pen on an attempt being made to examine it more closely. Individual specimens vary considerably in their tamability, but even the wildest can be subdued by the exercise of a little perseverance. As a rule, fowls can be rendered docile without recourse to confinement in the training-pen, if they are taken in hand while young and are not frightened in any way. In the training-pen, however, the matter is a simple one. Handle the bird frequently, stroking it gently with the hand. Stand in front of the pen and feed it with meat and other tit-bits from the hand; and, after the first few times, the fowl on seeing

you enter the building will come to the front in expectation. On all such occasions stroke the bird gently with the judging stick.

When all else fails, washing, that operation which, in the case of all birds that readily show the dirt, is a necessary adjunct to showing, will effectually tame the wildest bird. It is useless to disguise the fact that the washing of a fowl, when one is new to the job, is a difficult task—that is, to perform it successfully. If you bungle the thing, the bird will look worse when finished than it did before. For this reason it is always advisable to wash the birds several days before the show. In any case the operation should be performed three days before so that the feathers can get thoroughly dry and web properly before the judge is faced; but the inexperienced should do it a week in advance. It is quite within the bounds of probability that the tyro will make a hash of it and have to wash the bird over again—hence the advisability of giving oneself plenty of time.

The washing should be done before a good fire—the kitchen hearth is an excellent spot. Three bowls should be procured, one containing water heated to a temperature which can just be borne with comfort by the naked hand, one containing warm water, and the third cold water, in which for white fowls a little blue powder has been dissolved. In the first vessel make a lather with soap, white for preference, and into the solution immerse the fowl bodily, working the soap and water into the plumage to the skin. Let the feathers get thoroughly soaked and softened, and then rub the soap into them, taking care to rub the right way. Having got the soap thoroughly incorporated with the plumage the next thing is to get it out again. Herein lies the use of the second bowl. Immerse the fowl in this as before and soak the feathers until you are confident that every particle of soap has been removed. Assured that all the soap has been removed, give the bird a final rinse in the blued water, and the actual washing is completed.

Take a soft towel, previously warmed before the fire, and rub the fowl until you have removed as much of the moisture as possible, always rubbing the way the feathers lie. Finally, place the bird in an unlined open-work basket, which allows plenty of room for it to turn round without disarranging its plumage, and leave it before the fire until morning—not too near or the feathers will be scorched—when it will be thoroughly dry and, if the washing has been a success, clean to a degree.

In the case of black or other dark-coloured birds, where to wash the plumage would be superfluous, the legs, comb and face are the only parts which require washing. Yellow or white legs especially are a source of some trouble, as to remove the dirt which has found its way underneath the scales needs the expenditure of both time and care. It is best to grease the legs well a week or two before washing and to scrub them with soap and water at least twice, the final scrubbing taking place immediately before dispatching to the show. The comb, face and wattles should be washed carefully with warm water and thoroughly dried.

A rub down with a soft silk handkerchief is all that is now required before placing the bird in the exhibition hamper.

THE IRISH TABLE DUCK INDUSTRY.

MR. PERCY A. FRANCIS contributes an interesting and valuable article to the *Journal of the Irish Department of Agriculture*, some portions of which we reproduce, and by courtesy we are able to give the illustrations which accompany it. He says the number of ducks in Ireland in 1910 is given in the official returns as 3,367,578, showing an increase since 1904 of 468,793, or 16 per cent. This increase is composed largely of ducks of the Indian Runner type, which though excellent for laying purposes are too small to be first-class table birds. Ducks are kept, however, almost entirely for egg-production over the greater part of Ireland, with the exception of some districts in the east and north, and the development of this branch of the industry has brought very considerable benefits to Irish producers. On the other hand this development has led to large quantities of surplus birds—which are frequently only a bye-product in the maintenance of flocks of layers—being put upon local markets irrespective of demand or price; and, as attempts are seldom made to fatten these birds before selling them, the prices realised are naturally not high. Such birds are usually cast off stock birds of indefinite age or tough nondescripts past their first youth, with muscles prematurely hardened by a ceaseless hunt for food. The writer well remembers once buying some birds of this description, apparently five or six months old, at 1s. each. Closer acquaintance, however, proved unsatisfactory and further purchases of that kind were carefully avoided. Large numbers of such birds are sold annually in some districts from 10d. to 1s. 3d. each, and the supply appears to be increasing in several markets, though it is highly improbable that any profit can accrue to the producer at such prices. Unfortunately, too, buyers in some districts will only give the same low price whether the duck is good or bad—apparently because a trade in ducks of inferior quality has been developed. Consequently no continued efforts are made to produce a better-class bird, or to build up a more profitable trade. Such a condition of things can scarcely be considered economic, either as regards individual profit or national prosperity.

There are districts, however, such as Dundalk, Drogheda, Ardee, Carrickmacross, Kingscourt, Lurgan, Portadown, Limavady, and Londonderry, where more attention is paid to the production of better-class table ducklings, and in several of these districts all the broody hens obtainable early in the season are used for hatching duck eggs. The industry is almost entirely confined to small farmers and cottagers and a fairly typical home of a duck-rearer in Co. Louth is shown on next page. This year the birds reared and sold and the prices obtained for them by this rearer were as follows:

		s.	d.
April	1, 30 ducklings at	2	6 each.
"	21, 16 " at	2	3 "
May	4, 15 " at	2	3 "
	10, 12 " at	2	0 "
June	10, 20 " at	1	8 "

All the birds were sold to a local "higgler," but the rearer states that in previous years 3s. and 3s. 6d. each was obtained for the earliest birds.

The large shippers in these districts complain,



THE HOME OF A DUCK-REARER IN CO. LOUTH.

however, that the continued use of late years of Indian Runner ducks without sufficient admixture of Aylesbury blood, has caused considerable deterioration in the general quality of the ducklings marketed. One shipper, who sends from 20,000 to 30,000 ducklings annually to the Liverpool district, states that he has been asked by his customers to sell the "white" ducklings separately, but that he could not comply with this request as he would find it difficult to dispose of the inferior (coloured) birds alone. Practically all the large shippers state that they cannot get nearly enough ducklings of suitable quality early in the season; that the demand for really good ducklings is always keen, and the supply always short; and that too many birds of inferior quality are brought to market.

After dealing with the duckling trade in the Aylesbury district, and showing the extent of the demand, together with prices obtainable, he states: The industry seems particularly suited to poultry-keepers in Ireland. The market is comparatively close at hand; the climate is very suitable; oats, potatoes, and milk—excellent foods when properly used, for fattening ducklings—are home products; tallow greaves are produced in Ireland, and can be purchased at a moderate price, whilst other flesh foods can be obtained without much difficulty. Ducklings, too, are hardy, and subject to few diseases; they are easier to rear than chickens or turkeys, and require much less space; whilst as they should be marketed when from eight to ten weeks old, the cash returns are quick. The rearing of table ducklings need not interfere to any extent with the present production of duck eggs unless desired. The two branches of duck keeping can go on side by side, egg-production being supplemented by table-duck rearing. It is not necessary in every case to keep a breeding flock of pure-bred table ducks, as quite good ducklings can be produced from Indian Runner ducks provided they are properly mated with drakes of a table breed; but of course if it is desired to rear table ducklings of the finest quality only the proper table breeds should be used. Much will depend, however, upon the methods adopted, and persons who may be contemplating the fattening of large quantities of ducklings are advised to put themselves in touch with likely buyers before commencing operations, and to gain definite information regarding the markets they intend to supply. A careful study should also be made of the best methods of rearing and fattening. Generally speaking the principal aim should be to produce, *especially early in the year*, well fattened ducklings of good quality, weighing from 4lb. to 5½lb. each when from eight to ten weeks old.

With a view to improving the quality of table ducklings produced in Ireland, the Department, in conjunction with the Co. Armagh Committee of Agriculture, established last year, as an experiment, two Aylesbury duck centres near Lurgan and Portadown. At each of these centres the station-keeper purchased thirty selected Aylesbury ducks and the necessary number of drakes, and erected suitable houses for the accommodation of the birds. In order to earn a premium of £5, each station-keeper was asked to sell sixty dozens of eggs for hatching purposes at 2s. per dozen between January 1st and May 31st to residents in Co. Armagh. The stations sold 73 to 75 dozens respectively as

specified, besides selling other sittings outside the county. The demand for eggs in the early season was keen—often exceeding the supply—and the percentage of fertile eggs was generally high. Some ducklings reared from these eggs were sold to local shippers in May and June at 2s. 6d. to 2s. 10d. per bird, and weighed over 5lb. each at nine weeks old, whilst other ducklings are being kept for stock purposes, and it is hoped will be used for producing table ducklings, either pure or crossbred, next year.

In addition to these special stations a limited number of ducks of table breeds have been kept at some of the Department's ordinary egg distributing stations since the commencement of the Department's Poultry Scheme. At present eggs from Aylesbury, Pekin, or Rouen ducks are distributed from thirty-three stations situated in the following counties: Armagh, Cavan, Donegal, Down, Kildare, King's Co., Londonderry, Meath, Tipperary, Waterford, Westmeath, Wexford, and Wicklow.

Upon the question of feeding some useful suggestions are made as follows: In order to obtain a satisfactory number of fertile eggs the stock ducks must be given greenstuffs and animal food regularly, except during the summer months, when the birds, if given constant access to a suitable run, will procure these essential foods for themselves. Turnips, cabbage, and early-cut clover hay are excellent greenstuffs for ducks. The clover hay requires to be cut into short chaff and steeped for about twelve hours in hot water before use; the turnips should be cooked and mashed; whilst the cabbage may be either cooked or chopped up finely and fed raw. A form of animal food, which, as a rule, is easily obtainable, is the refuse—especially blood—from butchers' shops and slaughter houses. It happens sometimes, too, that an animal is slaughtered on the farm, and—provided, of course, there is no infectious disease in the carcass—the blood and offal should be saved for the ducks. All such material must be thoroughly cooked and minced before use and fed as fresh as possible. Tallow greaves are also obtainable in Ireland at a moderate price. The ducks' rations should consist almost entirely of soft, mixed foods, though an occasional feed of grain may be given. The mixture used should vary according to the time of the year, and below is given a list of suitable rations for the different periods. Any changes in diet should be made gradually, and the effect on the birds noted. This specially applies to animal food, which, if given suddenly in large quantities, is liable to cause severe diarrhoea. The ducks may be fed twice each day, morning and evening; but it is important to give only as much food at each meal as the birds readily clear up. The morning meal should be scanty, so as to induce the ducks to take exercise in seeking food for themselves, since fat ducks are lazy, lay badly, and their eggs are usually infertile. It is advisable to feed in long troughs covered with movable wooden cages in order to prevent trampling on the food, and it is most important to keep such feeding vessels sweet and clean.

The ducks require access at all times to grit and lime. A load of screenings from a stone crushing machine, or of gravel from a river bed or gravel pit, will provide sufficient grit for a long period. The bulk of this material should be about the size

of split peas or small Indian corn, but the presence of some finer stuff like sand is advantageous. Crushed oyster shells provide lime in a good form, and can be purchased in most country towns.

RATION I.

For November 1st to January 1st.

- 5 parts *"Oat Smash."
- 5 " Fine Sharps or Pollard.
- 2 " Bran.
- 3 " Indian Meal.
- 1 " Cooked Animal Food.

RATION IV.

For June 1st to November 1st.

- 5 parts *"Oat Smash."
- 5 " Fine Sharps or Pollard.
- 5 " Bran.

The parts given are by *weight* and not by volume. If, however, the quantities are carefully weighed a few times sufficient accuracy in judging the proper amounts will probably be gained and constant weighing prove unnecessary. The dry portions of the ration should be mixed first, and if desired a



DUNDALK DUCK MARKET, JUNE 19, 1911.

RATION II.

For January 1st to April 1st.

- 5 parts *"Oat Smash."
- 5 " Fine Sharps or Pollard.
- 5 " Indian Meal.
- 2 " Cooked Animal Food.

RATION III.

For April 1st to June 1st.

- 5 parts *"Oat Smash."
- 5 " Fine Sharps or Pollard.
- 3 " Bran.
- 2 " Indian Meal.
- 1 " Cooked Animal Food.

fairly large quantity can be stored in one receptacle ready for use. The greenstuff and animal food should be added to the dry mixture, together with sufficient liquid to form, after thorough stirring, a crumbly, but not sloppy mass. It is better to prepare at one time only sufficient for one day's use. The greenstuffs may be varied as frequently as possible, and, if desired, cooked potatoes may occasionally be added. Only good sound meals should ever be used, and the "oat smash" should be ground as finely as possible.

The following rations are recommended for the final stages of fattening:

The following dietary is given merely as an

* "Oat Smash" refers to oats coarsely ground in ordinary country mills

example of a suitable system of feeding the ducklings, and it must not be inferred that rigid adherence to these rations is necessary for success.

RATION I.

First Week.

- 1 part Ground Oats or fine Oatmeal.
- 1 „ Fine Sharps.
- 1 „ Bran.

Mix with milk and feed four times per day.

RATION II.

Second Week.

- 5 parts Ground Oats or fine Oatmeal.
- 5 „ Fine Sharps.

RATION IV.

Fourth Week and until Killing.

- 5 parts "Oat Smash."
- 5 „ Pollard or Sharps.
- 5 „ Bran.
- 2 „ Animal Food.

Mix with cooked potatoes and feed four times per day until the fifth week; afterwards thrice daily.

All foods must be mixed into a crumbly—not sloppy—condition, and given fresh. Milk may be used whenever available, and after the second week, in any form.



A SHIPPER'S PURCHASES ABOUT TO LEAVE ARDEE MARKET, JUNE 20, 1911.

- 5 parts Bran.
- 1 „ Animal Food.

Mix with milk or water and feed four times per day.

RATION III.

Third Week.

- 5 parts Ground Oats or "Oat Smash."
- 5 „ Pollard or Sharps.
- 5 „ Bran.
- 1 „ Animal Food.

Mix with cooked potatoes and feed four times per day.

Poultry-Breeding in Nigeria.

Our Lagos correspondent informs us that it is the intention of the Government to make an attempt to improve the breed of the native fowls in Southern Nigeria by the introduction of English birds, and the Director of Agriculture is arranging for the purchase of a large number of cockerels, which will be disposed of to the public at cost price, a few being retained by the Agricultural Department to be kept under control so that the results of the experiment, under the most advantageous conditions, may be ascertained and recorded.

THE FINAL CHOICE OF STOCK.

ALTHOUGH it is necessary to the attainment of the highest possible success that the breeder should bear in mind the special requirements of his production and the final selection of his growing birds for that purpose, and should in consequence cultivate a habit of constant observation—mentally selecting and rejecting throughout the rearing period—there is no doubt that the commoner practice is to defer all such considerations until the approach of mating and the making-up of breeding- and laying-pens forces attention to a process of primary importance. Those who adhere to yet older methods, and they form a by no means insignificant proportion in relation to the whole, are even more reckless in that they frequently dispose of all their best-grown birds as they attain saleable age, and are left with an insufficient remainder of more or less inferior fowls or birds hatched out of due season from which to renew their stock—any such course resulting in inevitable decadence, a process that is only prolonged according to the measure of sheer luck.

In order to rise superior to mere mediocrity of production, with the danger of a still further descent to inferiority, luck must give place to the nearest approach to certainty that present knowledge can assure, and choice must, as far as may be, overrule chance. The choice of stock upon which the future character of production depends must at this period of the year be final and absolute, at any rate, as far as concerns the general purposes of the average commercial producer. That choice is usually more or less limited to the material that previous management has rendered available, being narrow or wide—as well as good, bad, or indifferent according to the perspicacity of the individual, who, except in so far as the necessity arises to depend upon the skill and judgment of other breeders for the possible selection of “fresh blood,” is now thrown upon his own resources, and must stand or fall in the future by his past work as a breeder and his present discrimination as a selector. The choice demands the ability to distinguish clearly, both by the eye and the understanding.

Although the understanding must operate prominently in the selection of laying stock, to the extent that an exact knowledge of pedigree and the records of strain possess a particular significance, it should be clearly realised that according to the evidence at present available there is no promise of uniformity or permanence in the revelation of the trap-nest. The descendants of the record-breaker must individually be tested for proof or disproof of heredity in this quality. Enthusiasm for strain is only legitimate in so far as it admits the limitations of imperfect knowledge, but when it is blind to obvious defects it becomes misleading to the uninitiated, and the old story of the sightless and those without sight is in danger of disastrous repetition. The trap-nest has enforced more than one lesson bearing upon the important subject of selection, but in the glamour of the highest score we are apt to overlook the significance of the lowest, and very generally forget the limitations imposed by the average of a strain. Attention has been directed to this very point in recent contributions dealing with laying competitions, wherein mistakes in selecting the individuals of

a strain are suggested as the cause of failure in competition—an argument that emphasises the uncertainty of this character. Choice must be aided by the eye as well as the understanding, although the fallibility of visual selection is well illustrated in the before-mentioned admission, possessors of trap-nested strains failing on account of an inability to select those that are above the average from those that fall below.

Relative to externals and their indications of fitness for the main purposes of production, choice can only be aided by certain broadly-defined principles, about which it is scarcely possible—or if possible more or less unprofitable—to do more than generalise: and this not only on account of the difficulty of adequate description, but more particularly because experience is so much more trustworthy than the attempt to see through the eyes of another. Speaking generally and by way of example—an important one in view of a modern tendency—it may be said that size and prolificacy are compatible to a certain point; but that these noteworthy modifications of domestication are limitable, so that if an extreme be sought by selection in either direction the one tends to destroy the other. Size is incompatible with prolificacy, just as a forced production is destructive of the producing organism, and natural limits are set to the reproduction of the extremes developed under domestication. Large, heavy birds are out of place in the breeding-pen, fertility and the mere production of eggs at all being inimically influenced by excess of size and weight, whereas the best layers and the most fertile are found among birds of moderate build—even inclining to what some modern standards would classify as small; a statement of fact that must be qualified by the note that legitimate size is relative—a remark that is necessarily added to prevent misconception on the part of the general reader, who may not discriminate with regard to types and objects.

A size that the egg-producer would almost instinctively reject may quite reasonably be sought by the breeder of table-fowls remembering that for this purpose there are also necessary limits in view of the influence of excess of weight upon reproduction, and the desirability of perpetuating (as far as may be) a suitable strain. Excessive size and weight in the breeding stock are therefore generally undesirable, but what is required is a capacity in the progeny to acquire weight when subjected to a special method of feeding; and this is an economic characteristic which appertains to some breeds more generally than others, but is more particularly developed in a strain than is fully realised by those who have not specialised in table-poultry production. Choice is aided by theory, but depends for the greatest measure of success upon direct practical, personal experience—and experience is limited by the unknown.

The Utility Poultry Club.

The hon. treasurership of the Utility Poultry Club having been resigned by Mr. Summerhays, owing to pressure of business, the work has been taken over temporarily by Mr. E. G. Martin, to whom members are asked to remit their subscriptions, at 79, Devonshire Road, Forest Hill, London, S.E.

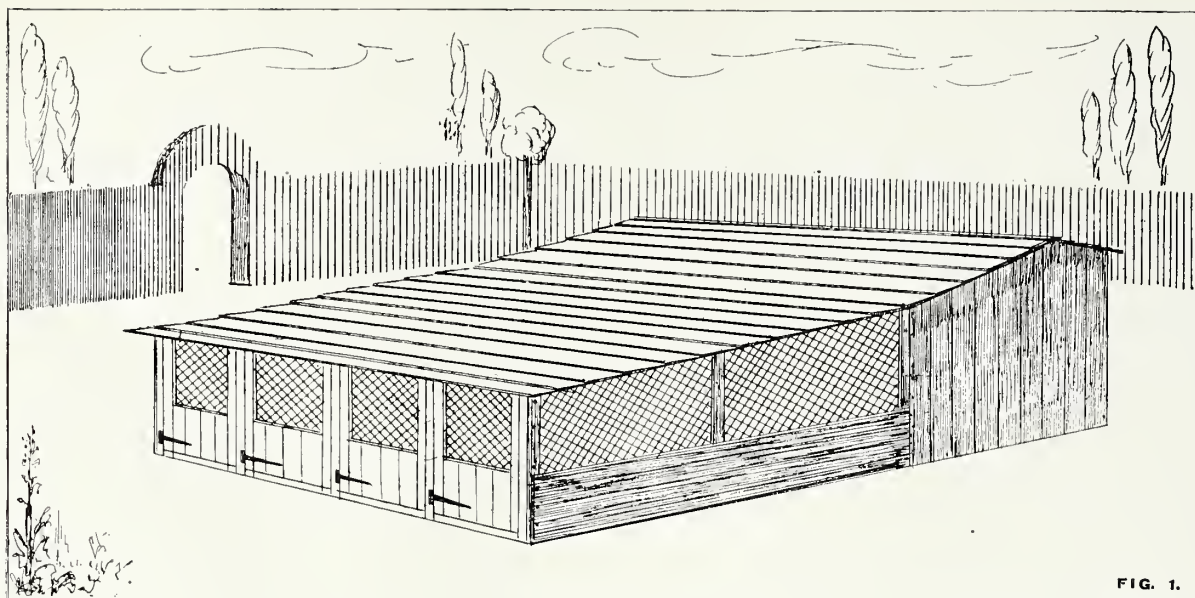


FIG. 1.

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HOW TO ERECT A RANGE OF COCKEREL-HOUSES.

By A PRACTICAL BUILDER.

FRONT and side elevations (Figs. 2 and 3). Plan ($\frac{1}{2}$ section, Fig. 4) houses and runs separate and each built up of sections screwed together. All framing of 2in. by 1in. batten covered with either $\frac{3}{4}$ in. or $\frac{1}{2}$ in. tongued and grooved matching or netting.

THE HOUSES.—10 SECTIONS.—Two end sections (Fig. 5). Height base to apex, 4ft.; to front edge, 3ft. 3in.; to back edge, 3ft. 6in. Width of frame, 3ft. 9 $\frac{3}{4}$ in.; width of $\frac{3}{4}$ in. matching, 4ft. Corners of framing halved (Fig. 22).

THREE PARTITIONS.—Height from base to apex, 3ft. 9 $\frac{1}{4}$ in.; to front edge, 3ft.; to back edge, 3ft. 3in. Width of frame, 3ft. 9 $\frac{3}{4}$ in.; width of $\frac{1}{2}$ in. matching, 3ft. 10 $\frac{1}{4}$ in. Same shape as end sections with exception of 2in. square slot at the apex (Fig. 6).

FRONT FRAMING (Fig. 7).—Length, 7ft. 10 $\frac{1}{2}$ in.; height 3ft. 3in.; four openings, two 1ft. 9in.; two 1ft. 9 $\frac{1}{4}$ in. wide. Half-way up 2in. by $\frac{1}{2}$ in. batten across. Upper part covered with wire netting, front faced with $\frac{1}{2}$ in. stuff to provide grooves for sliding door (Figs. 8 and 9). Sliding door $\frac{1}{2}$ in. matching. 3in. by $\frac{1}{2}$ in. battens. String from top of door over reel (Fig. 10) to back, so that house may be easily closed off from run.

BACK FRAMING (Fig. 11).—Length, 7ft. 10 $\frac{1}{2}$ in.; height, 3ft. 6in.; four openings, two 1ft. 9in., two 1ft. 9 $\frac{1}{4}$ in. Each opening fitted with door covered with $\frac{3}{4}$ in. matching (Fig. 12), and hinged with 10in. cross garnets and provided with buttons.

FLOOR (Fig. 13).—Framing 7ft. 8 $\frac{1}{2}$ in. long, 3ft. 9 $\frac{1}{4}$ in. wide, two intermediate lengths, covered with $\frac{3}{4}$ in. boards, length 7ft. 10 $\frac{1}{2}$ in. by 3ft. 11 $\frac{1}{4}$ in. Slots cut to allow for uprights, as shown.

ROOF (Figs. 14 and 15).—To make framing, place floor on ground, fit on ends front and back, screw in place, and make two pieces of frame to

fit inside and touch on top; on these frames nail weather boards with capping finally screwed on top (Fig. 16).

PERCHES.—3in. by 3in. quartering, fitted into slotted brackets screwed on each side, as shown at Fig. 5.

THE RUNS.—8 sections.

TWO SIDES (Fig. 17).—5ft. 11in. long, 3ft. 3in. to 2ft. 6in. high, one middle upright and one rail 12in. up; all joints halved. Lower portion boarded with $\frac{3}{4}$ in. matching, and upper part covered with wire netting.

THREE PARTITIONS.—5ft. 10in. long, 3ft. 1in. to 2ft. 4in. high, one middle upright, and one rail 12in. up. Lower portion boarded with $\frac{1}{2}$ in. matching, upper part covered with wire netting.

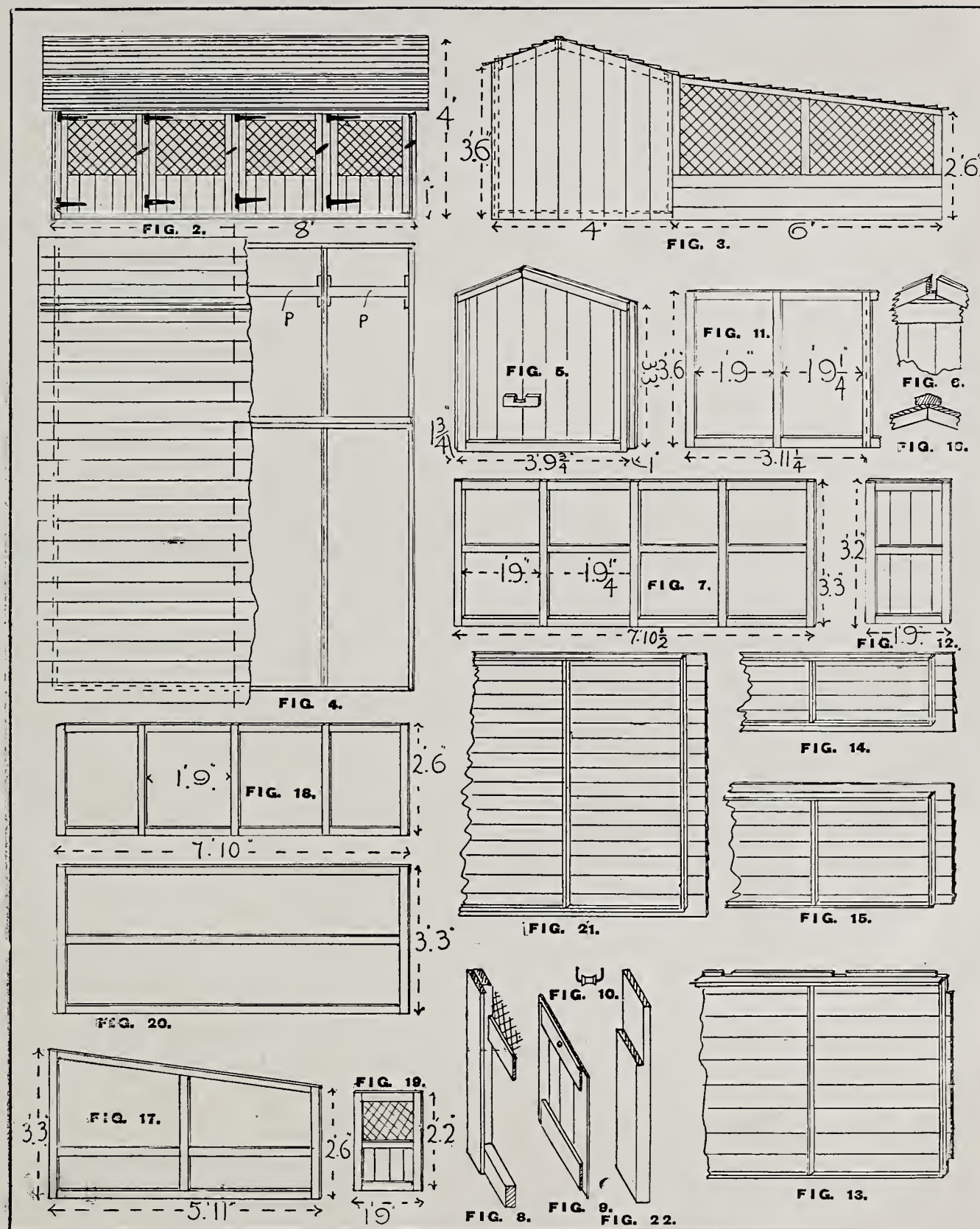
FRONT FRAMING (Fig. 18).—7ft. 10in. long, 2ft. 6in. high, divided into four parts, each 1ft. 9in. wide. Each part fitted with door 2ft. 2in. high and 1ft. 9in. wide, boarded half-way and wire covered upper half (Fig. 19). Doors hinged with 10in. cross garnets.

BACK FRAME (Fig. 20).—7ft. 10in. long, 3ft. 3in. high, one middle rail.

ROOF (Fig. 21).—Place sides and ends together, screw up, place in partitions, and then measure inside space; make frame to fit with two intermediate rafters, and nail on weather boards.

Runs either screwed or attached by hooks and eyes to houses.

COST OF MATERIALS.		s.	d.
500ft. run, 2in. by 1in. at 3s. 6d. per 1.0	...	17	6
$\frac{3}{4}$ square $\frac{3}{4}$ in. tongued and grooved matching at 12s. 6d. per square	...	9	6
$\frac{1}{2}$ square $\frac{1}{2}$ in. tongued and grooved matching at 10s. per square	...	5	0
100 square ft. weather board at 4s. 6d. per 100ft.	...	9	0
9ft. run 3 by 3 at 1 $\frac{1}{4}$ d. per ft.	...	1	0
Wire netting	...	3	0
Screws, hinges, &c.	...	3	6
Paint, limewash, &c.	...	3	6
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A COCKEREL - HOUSE IN SECTIONS.

FANCIERS AND FANCY MATTERS.

By WILLIAM W. BROOMHEAD.

Mr. O. F. Bates's Poultry—A Hamburg Specialist—Old English Game Bantams—Fowls Poisoned—In 1912—The Game Show—"Championships"—The Summer Shows—September Fixtures—Red Orpingtons.

MR. O. F. BATES'S POULTRY.

Readers of THE ILLUSTRATED POULTRY RECORD who follow the reports of the numerous poultry shows held in this country—and more especially those who are keenly interested in Wyandottes and Bantams—cannot fail to have noticed that for some few years now Mr. O. F. Bates has been almost invincible in Gold and Silver Wyandottes, and certain breeds of Game and Variety Bantams. At most of the principal exhibitions of the year one can be certain of finding some of the Harlow Court birds on view; and if their pens are not adorned with the first prize tickets it is the exception rather than the rule. During the past year or two, however, Mr. Bates launched out in another direction, and Orpingtons took his fancy. The Black was the first breed to be tried, but, although he was fairly successful with his chickens in the show-pen, the variety did not come up to expectations. Hence, like many another fancier, he "went out" of Black Orpingtons. His latest fancy, nevertheless, is still in the same breed. This season he has taken to the White, and, since it has proved worthy of cultivation, it is almost certain that White Orpingtons have found a permanent home at the famous Harrogate establishment. When in Yorkshire for the recent Rotherham Show, I took the opportunity of visiting a few fanciers, and among them I included Mr. Bates. His poultry "plant" was a revelation to me, as it has been to others. The whole establishment is well laid out, but there is none of the "finery" one expects to find at such a noted place. Everything is done for the comfort of the birds, and everything in the way of buildings and runs is done on strictly utility lines. The houses are large and substantial, but without an ounce of waste, while the grass runs are of such extent that the herbage is for ever fresh and green. We in the South this summer have been looking on our scorched grass and longing for rain to brighten the runs. Away in Yorkshire, on one of the hottest days of this hot season, the herbage was as fresh as we get it in the spring-time. The farm at Harlow Court is in every way an ideal one, and small wonder that the birds on it do so well. The White Orpingtons I saw, among the numerous excellent fowls and Bantams there, were fit for any competition. And it is encouraging to the beginner to hear that they were bred from quite ordinary stock, since the breeding-pen was got together at no high fancy prices, but at very modest figures. However, there is no doubt that Mr. Bates holds a winning hand in Whites, and fanciers of the variety—it is a particularly strong one in the exhibition arena just now—will find keen competition at the autumn and winter shows this year.

A HAMBURG SPECIALIST.

While at Rotherham Show aforesaid, I had a long chat with one of the foremost Hamburg

fanciers of to-day, to wit, Mr. C. E. Pickles, of Kayfield House, Earby, Yorks. He told me that he has had an excellent season with the chickens, and not far short of a thousand have been reared. Most of them, some six hundred or so, are Hamburgs, and the remainder Gold and Silver Wyandottes. Chickens at Kayfield House, it is worthy of mention, are hatched and brought up in the old-fashioned way. "Cluck" hens are the only "incubators" in vogue, and, except for very late birds and for those youngsters whose mothers prove to be unreliable, the chicks are reared under hens. Artificial means, therefore, are confined to two foster-mothers. Now, although I am a believer in "t'owld hen," I cannot help thinking that such a system with a large flock must entail a great amount of labour, and, to me, it is somewhat surprising that it is followed. However, Mr. Pickles assured me that he has never had cause to regret it, and that it is seldom indeed he has to rear his birds in the foster-mothers. The Hamburg is not a very popular breed nowadays in this country; it is evidently better appreciated abroad, since Mr. Pickles informed me that the bulk of his chickens are going on to the Continent, large orders from Holland, Belgium, and Germany being executed, while an American consignment will have to be completed early in October.

OLD ENGLISH GAME BANTAMS.

I see that a movement is forward to form a club for Spangled Old English Game Bantams; but why for one variety alone? Why not an Old English Game Bantam Club? There are already in existence two clubs for Old English Game fowls, but it is questionable if they cater at all extensively for the Bantams. The fancy for the "wee yuns" is a large and increasing one, and the number of fanciers keeping and exhibiting them is surely big enough to get a strong club going. Many advantages might be gained by combination, and it is hoped that those who have the welfare of Old English Game Bantams at heart will join hands and form a club for this handsome and hardy breed. Mr. T. T. Fawcett, of Hawes, Yorkshire, himself a breeder and exhibitor, is appealing to the Fancy for support in the matter; and I hope to hear soon that the club is a going concern.

FOWLS POISONED.

I hear from Messrs. Entwistle Brothers, of The Grove, Westhoughton, that on the arrival of their exhibits from the late Tunbridge Wells Show two White Orpington pullets and one Buff Orpington pullet were found dead in their basket. The Buff, by the way, won first prize in a strong class of twenty-seven entries at the event, and was, beyond doubt, one of the very best specimens of her kind that has ever been penned, while the two Whites were particularly promising birds, and would doubtless have done much winning this season. Messrs. Entwistle had a post-mortem examination made and the report is that death was due to septic poisoning. Whether the outrage was committed at the show or on the return journey it is impossible to say, but since the matter is one of extreme importance to every exhibitor and all show authorities, it is hoped that the Poultry Club, under whose rules the event was held, will take it up in a vigorous manner. Such disgusting cases as this were not altogether rare a few years back, but little

has been heard of them of late, so the Poultry Club will be doing a good thing in assisting the owners to bring the culprit to book. I was with Mr. Joe Entwistle on the first day of Tunbridge Wells Show, so I thought that he, like other exhibitors who bring a team down, would have waited until the close of the event and taken his birds back with him. Apparently, however, he did not.

IN 1912.

Since the "Royal" Show is booked for Doncaster in 1912 the Yorkshire Agricultural Society—which holds its annual shows in different parts of the county—and the Doncaster Society have decided to forego their annual fixtures next year in order to concentrate upon the task of making the visit of the "Royal" an unqualified success. And the hope was expressed, at the customary show luncheon of the latter society, that the promoters of district shows in South Yorkshire would see their way to "go and do likewise."

THE GAME SHOW.

To all intents and purposes there is only one Game Show in England—that which is held annually at Kendal. Game fanciers will be pleased to learn, therefore, that preparations are being pushed forward to make the 1911 event as great a success as any of its predecessors. The dates fixed are November 1 and 2. The schedule is now in hand, so any fancier having suggestions to make regarding classification, &c., should communicate without delay with the secretary, Mr. J. C. Parker, 11, Cliffe Terrace, Kendal. Modern Game Bantams will have the same attractive list of twenty-four classes as before, and the executive hopes that all other sections of Game will be on the usual extensive lines. In large Modern Game there are likely to be four challenge cups offered for competition, so the entry should be a strong one. Among the special prizes for competition will be a silver cup for the tallest and best shaped Pile Game Bantam cockerel, colour not to be taken into consideration. This is an excellent idea, since reach and type are surely the strongest points of any Modern Game, be they large fowls or Bantams.

"CHAMPIONSHIPS."

The old and "near" method of confining certain special prizes to exhibitors who pay extra for the competition still holds good at some of the Scottish shows. At Dumfries Show on August 1 two gold badge medals were offered, one for the best cock or cockerel and the other for the best hen or pullet. And the conditions were that, "exhibitors in the above champion classes must give the class numbers of the birds they wish to compete" and—pay an extra entrance fee of a shilling each bird! Glancing through the list I find that both medals were *presented* to the Society! Prodigious! I wonder how many birds were entered for the "championship" (*sic*) medals, and of what value that competition was. In more generous parts of the globe, special prizes, and championships to boot, are offered free to induce a good entry and a display of high quality stock. Then, a special winner is indeed a valuable bird; but in the other circumstances? I have known when only two fowls were entered for two such prizes in Scotland, and other birds in the show easily beat the "champion" winners!

THE SUMMER SHOWS.

So far some score or more of the county and other summer shows have been held; and, taken as a whole, it has been by no means a bad season. Perhaps of them all the best entry was obtained at the "Royal" as mentioned in last month's notes. However, there were good displays at St. Ives (Hunts), at Shrewsbury (Shropshire), and Doncaster (Yorks), which unfortunately clashed; at Exmouth (Devon), Horsham (Sussex), Birkenhead (Cheshire), Aberdeen (Royal Northern), and Brigg (Lincolnshire), all important fixtures and held on or about the same dates; at Stafford, Leicester, Inverness (Highland), Hatfield, Bolton, Rotherham (the great Yorkshire event), and Chester-le-Street (Durham County fixture). Possibly the worst of them so far was Tunbridge Wells; it was certainly very disappointing to those of us who remember the old "Wells" shows. Time was when the Fancy considered it as one of the best events of the season, and certainly as the pick of the summer shows of the South. But it has fallen from its high estate. I heard on good authority that the poultry section had to show a profit this year, otherwise it might be cut out of the exhibition altogether. A "cheese paring" policy was adopted, and a beginning was made by cutting out the Bantam section. Then, sufficient entries not being forthcoming, fifteen of the sixty-four scheduled classes were cancelled. And had it not been for the excellent support given by fanciers of Orpingtons and Sussex fowls there would have been a sorry display indeed. A proper revision of the classification and an entire change of judges might bring a better result another year. The executive is welcome to the suggestion.

SEPTEMBER FIXTURES.

So many shows were held last month—I forget the exact number—that one looks for something of a rest in September. Not so, however, since even at this early date—THE ILLUSTRATED POULTRY RECORD has to go to press some days before the end of the month—sufficient events are announced to average over one per diem, Sundays included, throughout the month, and—there are more to follow! At least half a score will be held on the 2nd inst, and among them are such important fixtures as Skipton, Benthams, and Brighouse, all in Yorkshire, Blennerhasset (Cumberland) and Crawshawbooth (Manchester), while of the Scottish events on that day Milnathart (Kinross-shire) is probably the biggest. Hadleigh (Essex) is announced for the 5th and 6th; Aughton (Ormskirk, Lancs), 6th; Crowthorne (Berks), 6th and 7th; Goosnargh (Preston) and Pantglasarms (Carmarthen), 7th; Mas-ham (Yorks), 8th; Chorlton-cum-Hardy (Manchester), Brough, and Sedbergh (Yorks), 9th; Wardle (Rochdale) and Loughborough (Leicester), 13th; Drogheda (Ireland), 13th and 14th; Stokesley (Yorks), 14th; Haywards Heath (Sussex), 14th and 15th; Northallerton (Yorks), 15th; Southport (Lancs), the great amateurs' £3 limit show, 16th; Caterham (Surrey), 20th and 21st; and Altrincham (Cheshire), 27th. This last is probably the biggest one-day event held in the provinces.

RED ORPINGTONS.

Concerning my remarks on "The Red Boom" which appeared in last month's issue, Mr. W. Holmes Hunt (Brook House, Hellingly, Sussex),

who is the originator of the Coronation (Red) Orpington fowl, writes to me that the new variety is quite distinct from the Red Sussex. The Red Orpington, he assures me, is a self-coloured fowl exactly the same as the Buff, only of a dark red shade. At present it possesses, like the earlier Buffs, black in tail and wings, though not very much, and which, of course, has to be bred out. Admittedly, in the Red Sussex standard these points are given as essentials, and in addition the hackles are supposed to be striped or ticked with black, while the type of the two breeds should be different. "I think you will see," adds Mr. Hunt, "that my Red Orpingtons are quite distinct and can in no way be mixed up with, confounded, or passed off as Red Sussex." We shall see! There are comparatively few Red Sussex in the show-pen which possess the standard black points; and apparently some judges—and among them one who is. I believe, a Sussex Poultry Club judge—consider the black as a defect! However, I in no way wish to discourage fanciers in their attempts to add to the already long list of varieties of poultry, hence I hope the Coronation (Red) Orpington fowl will meet with the success its originator anticipates.

THE AMATEUR'S BEST BREEDS.

IT has always been a difficult matter to convince a beginner that strain is of even more importance than breed. Yet this is one of the first lessons that should be learned by the aspiring poultry-keeper, for though he may be advised to select one particular variety, he will find in the course of time that every bird which passes by the name of that variety is not necessarily of a high standard of usefulness. In the old days, before there were so many books and papers catering for poultry-keepers, most people regarded a fowl as a fowl, and never imagined that one might be better than another. As a matter of fact, it is only within recent years that specialist breeding for egg-production, and, in fact, for all useful purposes, has raised the standard of some strains far above those of others, and at the present time it is far more important to select a suitable strain than a suitable breed.

To take a case in point. Two neighbouring poultry-keepers may be recommended to take up a certain breed, say, White Wyandottes. Knowing nothing whatever about the matter, they imagine that one White Wyandotte will do just as well as another, but by accident they go to different breeders, and one secures stock from a carefully cultivated laying strain, whilst the other's birds are descended from stock of no particular merit, that have never been subjected to the process of weeding and selection, by which inferior layers are thrown out and the utility value of the strain improved. The result is that one man may get nearly twice as many eggs as the other, and as they feed and manage their birds in much the same way the unfortunate one naturally wonders why his White Wyandottes do not lay as well as those of his neighbour. He may put it down to bad luck, but whoever reads this and experiences similar poor results may rest assured that there is no question of luck about it, but that it is simply due to neglecting the all-important matter of strain.

Having learned this lesson thoroughly, the amateur

may pass on to consideration of the most likely breeds for his purpose, and in discussing this matter we must, of course, be guided largely by the conditions under which the fowls are to be kept. A breed that would be excellent for a large and somewhat exposed grass run may be wholly unsuitable for a little back-yard pen, and *vice versa*. Moreover, we must consider whether the object is egg-production, or table-chickens, or both.

Let us, first of all, then, take the case of the amateur who can accommodate fowls in an orchard or paddock, and desires good all-round birds that will lay eggs at all seasons and produce some good table chickens for home consumption. For this particular purpose there is nothing to beat the White Wyandotte. Given a well-bred strain, it is one of the most prolific layers; the eggs are generally of good marketable size, the chickens are hardy, grow well, and, though they have yellow legs, the skin and flesh is of such good colour that they will pass muster as first-class table birds in most markets. For flavour and juiciness, a White Wyandotte is hard to beat, and the birds, moreover, are beautiful and pleasing to the eye when kept on a good-sized grass run. Then there is the Faverolles, a better table bird from the connoisseur's point of view, a remarkably quick grower, and only slightly inferior to the Wyandotte as a layer. The Sussex and the White Orpington may be classed in the same category, and these are all varieties that sit in moderation, being decidedly useful in that respect without becoming a nuisance.

Supposing, however, that an amateur requires some specially hardy general purpose stock for an exposed grass run, with a particular view to winter laying. In this case it would be advisable to make a choice between Buff Plymouth Rocks, Partridge Wyandottes, and Buff Orpingtons. These are, perhaps, the three hardiest varieties we have, and birds of good strain can be relied upon to lay where many other breeds would fail. The Buff Orpingtons make the best table birds when fully grown, and their leg colour naturally gives them an advantage.

In another case we may assume that a good-sized grass run is to be stocked with fowls from whom a constant supply of eggs is required, without consideration for table properties. For this particular purpose there are three breeds—White and Black Leghorns and Anconas—that may reasonably be regarded as the most productive of domestic poultry, so generous a return do they give for the food they consume. Leghorns were not generally regarded as hardy until some of the American laying strains were imported into this country, but there can be no doubt that White and Black Leghorns and Anconas are equal to many of the larger breeds in this respect, and though their eggs are white they are laid in such numbers that the birds are highly profitable. With these breeds, however, more perhaps than with others, it is necessary to discriminate between strains.

Those who desire to make a speciality of table chickens will find Faverolles and Sussex very suitable, for these are quick growers and of good colour and quality, whilst they are also good enough layers to provide eggs for hatching early chickens, which is a very important consideration. Finally, we come to the back-yard poultry-keeper who keeps a few hens for laying in a very small sheltered pen

that is generally fitted up as a scratching-shed. It would be useless for him to go in for general purpose fowls, and therefore he must select some of the most active, the smallest, and the most economical breeds available. Fortunately, we have in the Leghorn a breed particularly adapted for this purpose. It is a small eater, active, and a splendid layer, besides being a non-sitter, so that when well managed it gives a handsome return. Of the several varieties the Blacks are perhaps the most suitable for a back-yard run. They do not show the dirt like the whites, and of the two I am inclined to think they stand confinement the better. We must not, however, forget the Minorca, which has for many years been the favourite for small runs. It does better under these conditions than at liberty, for it requires a certain amount of shelter if it is to do well in winter, but the size of its eggs and its prolificacy put it on an equality with the Leghorn. Nevertheless, there are more good laying strains of Leghorns than of Minorcas at the present time, for the latter breed has not received so much attention from specialist breeders as it deserves, and that fact may give the Leghorns an advantage.

So much for pure-bred stock. Readers may ask, however, whether mongrels and cross-breds have no merits for any of the purposes enumerated. As regards the mongrel, one cannot get away from the fact that it is usually the product of careless, indiscriminate breeding, and for that reason it is not to be relied upon. Nevertheless there are some good layers among the mongrels. I have known individual birds that have put up records in egg-production equal to those of the best line-bred strains; but such specimens are very rare, and among a flock of twenty mongrels one might have one good layer, half a dozen moderate, and the remainder comparatively useless. There are no carefully-bred strains of mongrels, and for that reason they cannot be depended upon to average a good number of eggs like pure-bred birds from carefully-selected laying strains.

With regard to cross-breds, it may be stated that a first cross between two good pure breeds generally produces a useful fowl, but this plan is more suitable for the production of table or general purpose poultry than for layers pure and simple. No first cross, for instance, could prove a better layer than a well-bred Wyandotte or Leghorn, and it might not prove nearly so good. There is always some uncertainty about crossing. There is another consideration, for when an amateur commences to cross two breeds, the question is, where is he to leave off? He may, if he possesses some skill, make further crosses and develop a useful type of his own, but in the case of a beginner the stock are far more likely to degenerate into mongrels. There is also the point that laying specialists do not devote much attention to cross-breds, and the amateur will find the laying specialist a very useful person to rely upon. It is far better for an amateur who has no knowledge of the business of breeding laying stock to procure birds from a skilled breeder than to endeavour to evolve strains of his own out of inferior stock, and if only for that reason I am strongly of opinion that even the back-yarder has a better chance with pure-bred fowls than with either mongrels or cross-breds, provided he can buy stock from well-selected strains at a reasonable figure.

THE HEAD TEST.

By J. W. HURST.

IT may be presumed that even those whose reading is confined to the halfpenny Press have some more or less clear notions regarding laying tests, whilst most subscribers to poultry journals have at least an indistinct remembrance of a suggested growing test, but ignorance concerning what may be termed a head test can be excused. It is, of course, possible that the matter may have been put to the test before, but as far as my information goes it has remained for Mr. W. R. Graham, Professor of Poultry Husbandry at Ontario Agricultural College, to carry out the critical trials, the nature of which I have attempted to express in the above compressed headline.

What is the head test? I must confess that the question would have presented difficulties if anyone had thought of putting it before I had read the recently-issued Bulletin 189 of the Ontario Department of Agriculture, entitled "Farm Poultry"; and I must further admit that the perusal of that publication has suggested the question and supplied the answer. These poultry bulletins, of which some Agricultural Departments—other than our own—are so prodigal, contain much that is useful and informative to those who keep fowls outside the radius within which they are primarily intended to apply; they also frequently embody fresh facts, or new deductions from old ones. On page 42 of the pamphlet in question Mr. Graham states, relative to breeding for egg-production, that he "has seen a number of 200 egg hens with long narrow heads and sunken eyes, which indicate low vitality, and, moreover, has tested a number of them as breeders, and has yet to see one that was worth while breeding from, judging from the performance and living powers of her offspring."

In other words, Mr. Graham propounds the proposition that the head is the standard of constitution, and that the character of the latter varies according to the type of the former; and although the suggestion may not be entirely new, there is in this bulletin some attempt to systematise the indications with—as we have seen—some experimental support. It may be noted in passing, relative to the narrow-headed ones, that although of no use for breeding profitable progeny, such birds may be capable of a considerable egg yield, inasmuch as they are described as "200 egg hens"—the description being probably based upon the reputation gained in the pullet year. It may therefore be assumed, upon the basis of this test, that narrow heads and sunken eyes do not necessarily indicate an inability to lay a considerable number of eggs; but that the type is useless for the perpetuation of a laying strain. Nevertheless, if that type of head is indicative of low vitality it naturally follows that the narrowheaded ones would probably be unable to maintain the prolific spurt of pullethood. This is a point regarding which the managers of our laying competitions should be able to supply some useful information, and if we ever have a growing test those who conduct it may perhaps care to remember the head test as one direction for observation.

The principle is, however, of a wider application

than the aforementioned test might lead some to suppose, the authorities in Ontario taking a comprehensive survey of industrial production and remembering the needs of the chicken-raiser as well as those of the egg specialist. It is, in fact, in connection with the breeding of market fowls that the bulletin reveals the points of a good or utility head, in contradistinction to the narrow heads and sunken eyes referred to in the test. In both departments of production constitutional fitness is essential, and should be sought as much by the chicken- as the egg-grower. Mr. Graham points out, in the former connection, that although constitution may have no actual market value, it certainly has much to do with ability to grow and put on flesh; and he describes the utility head in the following words: "Generally, a bird with a short, stout, well-curved beak, a broad head (not too long), and a bright, clear eye, has a good constitution." Here, then, we have the standard of the head test, which those who will may compare with other standards and try by further trials, and upon which Ontario has formulated the rule that if a bird has a good head the chances are favourable for a good body, but that if it has a poor head the chances are against it. It will perhaps at any rate be recognised that, as a matter of common experience, when a fowl has a long and narrow beak, a thin long head and comb, and a more or less sunken eye, it is not only usually wanting in constitution, but is also generally possessed of a narrow long body and long legs. The significance of the head test is in any case worthy of careful consideration and practical trial with a view to determining how far utility qualities are referable to the indications of head type.

FOWL CHOLERA IN IRELAND.

By AN IRISH INSTRUCTOR.

THERE has been such an immense amount said and written regarding the above disease that one cannot help feeling rather diffident in offering any further remarks on the subject. But perhaps from the purely practical point of view, and as the result of close connection with outbreaks of this disease for a great many years, my opinion may not be altogether uninteresting.

In this part of the world cholera is generally known as "the disorder," or to give it our Irish touch it should really read "the disardher," and because of the various symptoms so well known to most poultry-keepers, it is now nearly as much dreaded as an outbreak of plague or small-pox. The suddenness with which it appears, and the consequent difficulty, amounting almost to impossibility, of adopting any curative treatment from the time one observes the first symptoms until several of the finest birds have succumbed to the attack, has really been the last lever on which to work in combating the disease. It makes it possible to advise preventive measures *all the time*, and in the most emphatic manner. I have known people who look round them complacently to-day, proudly boasting that they never had a hen die with cholera, but within a week their whole stock of perhaps one hundred fowls has practically disappeared. The cause of such an outbreak varies, and in later

years it is attributable chiefly to carelessness in destroying dead birds. As one old woman remarked to me some time ago, when I reproached her in my most diplomatic manner on seeing the remains of a dead fowl in her yard, "Shure I'm tired buryin' thim," and it is by no means an easy or a pleasant task to burn or bury a large number, while there is a certain amount of temptation to get rid of them by throwing them in a river or a "shough." But this method of dispatch I have set my face against most rigorously, knowing well by experience that it is an almost certain way of carrying the disease through a large countryside by means of dogs, cats, rats, and even by the atmosphere itself, through those intervening agencies.

The next preventive measure that I attach importance to is the need for greater care in feeding fowls, and supplying them with fresh water. Indian meal is all very well in winter, when its heating properties are beneficial, and when it is varied with plenty of home-grown corn, vegetables, &c., but in the soft, warm days of spring and early summer, when corn and cabbages are scarce, and when practically every hen is laying, the Indian-meal-and-potato diet must be condemned. For six months of the year County Monaghan has unlimited water—lakes, rivers, streams, ponds, wells; in March and April this supply very quickly diminishes, and laying hens are absolutely starved with thirst in some places. The owner "never thought of the dhrink," she will tell you innocently, but her poor birds, fed up with the most concentrated and starchy diet, each laying an egg per day, perhaps, for which the natural percentage of water is not procurable, are bound to suffer. They may find a stagnant pool from which to drink, and when farmyard manure is being removed in spring time I am sorry to say these "stagnant pools" are not uncommon; this putrid water acting upon the heated, over-fed and distinctly over-fat organs of a laying hen is, in my opinion, the immediate cause of cholera in the majority of cases. And, as we all know, there is no remedy once enteritis sets in, at least no remedy cheap and convenient enough to suggest for a whole flock of hens. Hence it is that so much stress should be laid upon avoiding these disastrous conditions, the wisdom of giving a varied diet, in which green food should always have a part, leaving a constant supply of fresh water or butter-milk, and giving a certain quantity of Epsom or Glauber salts in the food at stated times. Where this course of procedure is understood and followed with any sort of consistency, I must say that rarely or ever does a bird die of cholera. Needless to say, that though I do not consider bad housing so disastrous in its consequences to farmers' poultry, it is very necessary to expatiate on the advantages of a suitable roosting-house, where neither damp, nor dirt, nor darkness prevails, and where good perches, plenty of sunlight in the day, and plenty of ventilation at night are possible throughout the year. The very great value of lime, carbolic acid, paraffin, sulphur, and a few other simple disinfectants and antiseptics is becoming generally understood, and I do not at all despair of arriving at a goal which my first year's experience as instructor showed me as being the best that in my time could be achieved—namely, the prevention of disease as far as it is humanly possible to prevent it, and a larger and more constant supply of the best eggs in the world.

THE DOMINIQUE FOWL.

By W. W. BROOMHEAD.

(See *Frontispiece*.)

ALTHOUGH it is seldom met with in England at the present time, the Dominique has been seen in this country; but since it came in the days when poultry people were not as keen as they are now on booming a good thing, its stay in this country was not of long duration. The Dominique,

it has been comparatively neglected, and the Plymouth Rock appears to have displaced it in public favour.

In general characteristics the Dominique may be said to resemble a rosecombed Cuckoo Dorking with four toes, or even the Scotch Grey, but it differs from these breeds in having brilliant yellow legs. The comb is of a neat rose type, somewhat resembling that of the Hamburgh; face, wattles, and ear-lobes bright red; beak, shanks, and toes, yellow; eyes, bright red; and plumage similar to that of the Barred Plymouth Rock. Such at least



A DOMINIQUE PULLET.

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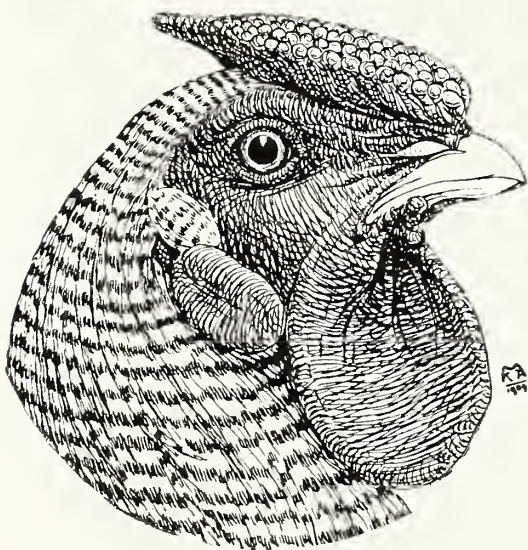
there can be no doubt, is one of the oldest distinctive American breeds of poultry, and it appears to be certain that it played no small part in the "manufacture" of the Barred Plymouth Rock. At one time the breed was held in high esteem for its general all-round useful qualities, and was recognised as producing good layers and fine table fowls; and in one of the earlier editions of "The Illustrated Book of Poultry," the author, the late Lewis Wright, had no hesitation in recommending it as one of the most useful utility fowls he knew. Of late years, however, and even in its native home,

is the description according to the American Standard of Perfection. Originally, however, the markings of the feather and the colouring of the plumage were much nearer the Cuckoo than the up-to-date Barred stamp, being composed of a light blue-grey ground, crossed with bands of a darker grey or blue. The shade of colour varied, the bands—following rather the form of the feather than going straight across—in some specimens being almost black; but a medium colour is nearer the correct thing.

It must not be forgotten that Cuckoo and Barred

plumage, as bred at the present time, are quite distinct. Some English fanciers declare that it is a distinction without a difference; but that is not so. And this can be easily seen by comparing either the Cuckoo Leghorn or the Cuckoo Orpington—one of the latest varieties of this popular breed—with well-bred Barred Plymouth Rocks. However, whatever the shade of colour in the Dominique, the hackles of the male bird should be free from red or golden feathers, defects apt to occur even to-day, but which may be eradicated by carefully selecting the breeding stock. In connection with this latter point it may not be amiss to quote the authority to whom reference has already been made.

"The best mode of breeding," said the late Lewis Wright, "is to select hens of a pleasing, medium shade, such as that desired, and to put with them a cock slightly darker, carefully avoiding birds with either red or black feathers, and as far as possible even hackles of a golden colour; by



THE HEAD OF A DOMINIQUE COCKEREL.

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which means, with a little patience, a strain may soon be formed that breeds a pure blue-grey." Undoubtedly, the great thing is to select cocks which are of a deep enough colour for the breeding-pen, yet not as deep as to have their sickles or tail coverts nearly or quite black. In addition to colour and marking, the headgear—a neat rose-comb and red ear-lobes—and the bright yellow legs and feet must be taken into consideration, while the shape of the body and size are by no means minor points.

As to its utility properties, the best that can be said of the Dominique is that it is a 'good all-round fowl.' Cocks weigh about 8lb. and hens 6lb. As layers the hens and pullets should do well on a farm, being very hardy and of the kind that can rough it. The yellow legs may be against the breed for table purposes, but in other respects the cockerels should be suitable, being likely fatteners. The Dominique, however, cannot be considered among the popular breeds of to-day, and, point for point, there are several which will give better results, both from a utility and a fancy standpoint.

SEPTEMBER NOTES FOR AMATEURS.

THIS is the month when many people purchase pullets for winter laying, and an important matter of this kind deserves special consideration. Whether we buy now or later, our object invariably is to get pullets that will lay during the winter when eggs are most valuable, and I am afraid that a great many amateurs who commence with this hope fail to realise their ambition.

The great thing is to get them the right age for commencing laying about the middle or end of October. As a rule pullets are too young, but I have known people who determined to be on the safe side, and who bought birds just reddening up to lay, which very soon fell into moult, and proved of no more service until late in the winter. To explain the cause of this, I must point out that a change of scene, food, and quarters just when pullets are preparing to lay invariably has the effect of upsetting them to such an extent that many fall into moult. This has been proved in the laying competitions, where the chief difficulty which competitors have to contend against is in selecting birds that will commence to lay at the right time and continue through the winter.

By buying cheap pullets, such as are frequently advertised, one is likely to have the unpleasant experience of not getting an egg all the winter; and to be sure that the birds are actually what they are represented to be it is necessary to see them before buying. So many amateurs are taken in by extravagantly worded advertisements, and buy pullets for winter laying, only to find that the birds are little more than half-grown, that I must lay particular stress upon this advice.

It should also be remembered that when pullets are moved to a new home their development will be checked, and they will need some little time to settle down before they ripen up for laying. Therefore, if you obtain pullets that are well grown, but have not yet commenced to reddening up for laying, you will stand a very good chance of getting eggs from them before November and of keeping them laying through the winter.

The foregoing remarks apply equally to beginners and to those who wish to replenish their stock, for this is the best time of the year to commence poultry-keeping. Houses and runs should be put up, of course, before the birds are bought, and the weather is favourable for that work also.

Those who have been breeding young stock must begin to thin them out rigorously, for the best of the pullets will soon be beginning to lay, and where accommodation is limited it is bad policy to retain birds that are not likely to pay any longer for their keep. The trouble is that many people do not know which birds will pay them. Well, in the first place, it is no use keeping a big flock of cockerels. A few birds may be retained, in view of breeding or selling, but the majority should be cleared off as early as possible, as well as any deformed or otherwise imperfect pullets. The late-hatched birds are generally the chief difficulty just now, for they occupy some of the best ground. With these, however, the thinning-out process should commence, and though small, unnecessary cockerels should be killed off whenever they are well fleshed.

SOME NOTES ON THE PROBLEM OF INTENSIFICATION IN POULTRY CULTURE.

By EDWARD BROWN, F.L.S.

[A paper read at the meeting of the International Association of Instructors and Investigators in Poultry Husbandry, held at the University of Maine College of Agriculture and Maine Agricultural Experiment Station, Orono, Maine, U.S.A., August 14 to 17, 1911.—EDITOR.]

THE feeding of a great community is a problem which presents itself with ever-increasing momentum. As population is enhanced, more especially when concentrated within limited areas, resultant from industrial and commercial developments, the importance of this question is correspondingly raised. We can scarcely contemplate the result of a failure in supplies, or any breakage in the conduit leading from the producer to the multitudinous mouths and stomachs found within our great cities and manufacturing districts. It is not too much to say that we live with only a few hours dividing abundance and starvation. There are, unfortunately, those who lack the means of obtaining their nutrition. Much more serious, however, would be the non-existence of the food itself. Political and other economists may be left to devise conditions more favourable to the former. It is part of our business to help in preventing the dawn of any day in which food supplies are insufficient to provide for those who must be fed, and who are unable by their conditions to produce their own food. It is not so much a question of luxuries, though these have an important place, as of actual nutritive elements. The one supplements the other as day follows night, but it is ever supplemental.

To feed the earth's population intensification of production is essential. It is all a question of the relative area of land occupied to the number of its inhabitants. Even nomadic tribes have to move with their flocks and herds from one place to another, otherwise they would starve. Under such conditions the denizens are few *pro rata* to the territory over which they roam. With settled communities, more or less fixed, production necessarily is on a different basis. We do not cultivate the sea, by reason of the fact that its surface is several times greater than that of habitable land, and when its depth is added the proportion is a thousand-fold that of the earth's rind which we are able to utilise. There is practically nothing more than a shallow covering upon which we may depend to yield us food. We need to make the most of it. Our mines may give us wealth in the shape of gold and coal and even diamonds, but they are useless for food. The sense of limitation is, therefore, very great.

This question assumes great importance as a result of the growing density of population within certain areas, and which, provided that the people can be fed, is likely to increase. Some sections of Europe offer striking examples of this fact. The population per square mile in the United Kingdom is 374, but in Belgium it is no less than 636, as that is one of the most thickly-populated countries of the world. It is evident, therefore,

that in both the question of food supply is momentous in the extreme. In the United Kingdom there is 1.7 acre to each inhabitant, inclusive of all the waste, mountain, and non-productive land. In Belgium there is less than one acre for each unit. Under these conditions there must be enhancement of production as a result of intensification of method, or large extraneous supplies, or a low standard of life. The last-named is what we find in Asia, where it is very low indeed. What is wasted in an English or American household in a day would maintain an Indian ryot or a Chinese peasant for a week.

Had it not been for the responsiveness of Mother Nature to man's efforts, the world would be a very different place to what we see it. Intensiveness of production has been carried out for centuries, from the earliest days when men first congregated in villages, increasing with the growing density of population. But for enhanced nutrition the growth in numbers of human beings could not have taken place. That this is all artificial cannot be questioned. The late Sir John Bennett Lawes, in some of his experiments at Rothamstead, clearly indicated that production on the natural scale is comparatively small.

"Needs must" is an axiom that we all recognise. The evolution of production in accordance with modern requirements has been due to pressure of human beings striving for their sustenance. They were compelled to intensify or die. To what extent the lives of men have been sacrificed ere the truth was recognised it is impossible to estimate. War has had its hundreds of victims; but probably the toll in the direction indicated has been taken in tens of thousands. Famine, disease, and death were requisite in order to realise the knowledge and experience of which we are the possessors. The increase of population during the last century is one of the most wonderful facts recorded, not alone in new countries such as the United States, but in older lands. In 1831, which year is selected for a reason given below, the population of the United Kingdom was 24,392,485 (nearly 50 per cent. greater than in 1801). By 1911 it had grown to 45,469,564, an increase of 21,077,079, or 86 per cent. in eighty years. Such could not have taken place without an adequate food supply. Improved sanitation has had a great influence in making for increase of population. A month added to the average duration of life of each unit in the United Kingdom would mean an annual increase of more than 100,000 people. The introduction of railways and of other rapid means of intercommunication, together

with trade organisation, has stimulated and made possible this growth of population, and provided the millions who have in the same period emigrated to colonise newer countries, by reason of the fact that food supplies were thus made available. This growth in Britain has been natural and local, not due in any large degree to immigration of alien peoples.

It is evident that with a rapidly-increasing population tending to reduce food production by absorption of land for other purposes, there must be intensification of method locally, or supplies be drawn from an extended area. In fact, both are requisite. The greater the aggregation the further must food be brought. What is known as Greater London, with its 7,000,000 inhabitants, consumes annually about 900,000,000 (nine hundred million) of eggs and about 7,000,000 (about 12,500 tons) fowls. The immediate areas could not yield such a volume, more especially as these districts are largely residential. Under such conditions intensification is not enough. Distant areas must be brought under tribute.

What we should aim for is to intensify as far as possible and profitable locally, more especially in perishable and more valuable food supplies, and draw from an ever-widening circle those products which are lower in price and less exposed to loss as a result of transit, equally in quality and price. In the former this can only be carried out by increased productiveness to meet the enhanced cost.

There are many lessons to be learnt from the experience of those who have preceded us, to be

made difficulties arise unknown before. To meet the altered, the new conditions, to make these contribute to success, to protect ourselves against the loss that would otherwise arise, is the object of all. To that end experimental work, using the term in its broadest sense, is necessary. We must endeavour to get at the hidden springs, to find out the why and the wherefore, to learn causation, so that, in some instances, we may prevent. The true meaning of all experimental work is the discovery of shorter cuts to the goal towards which we are aiming. In that respect it should always be educational. What, however, is of the greater importance is that such experiments shall be practical. There must be a definite objective, one which will, if realised, be of benefit to the great bulk of producers, and above all be economic. It is not always the case that experiments made are of value, from the fact that experimentors frequently use means which are denied to the ordinary poultry-keeper, and that the cost makes general adoption impossible. Experiments cannot in themselves be conducted on a commercial basis, in that the cost of labour, of apparatus, of time involved in keeping records, and duplication to test and confirm theories and conclusions, are greater than the results achieved. But these fail unless they enlarge the experience and increase the knowledge of men who have to make the main chance their supreme end. Some experiments are valuable because they indicate our limitations. We want to know what we cannot as well as what we can do. Many involve long periods for testing. Sir John Bennett Lawes, the great agricultural



GENERAL VIEW OF THE UNIVERSITY OF MAINE,
where the International Association of Instructors in Poultry Husbandry is holding an important conference.

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modified in accordance with the immediate conditions. In fact, such experience forms the real wealth of any country. Men, however, are often disposed to ignore what others have discovered. We have to remember that with every advance

chemist, once said to the writer, when explaining some of his experiments, "These require not one but three lifetimes."

In this connection it is desirable to state that research is a distinct branch from experimental

work. The latter should always have practical application to the regular needs of the poultryman, whereas the former may not. Both are desirable. The experimenter frequently finds himself blocked by difficulties which are outside his sphere, and which involves questions of pure science. Where he can turn these over to the

throughout the area reached. They are the sluice gates by which the waters find access to irrigate and fertilise the fields around. Therefore, the instructor as such should not be speculative, though he must ever be blessed with imagination, with the power of seeing things as they may be. The scientist and the experimenter, and the poultry-



THE CHIEF AGRICULTURAL EXPERIMENTAL BUILDING AT MAINE.

[Copyright.]

scientific investigator that is a great gain. But research should be the handmaid of experimental work, as experiments must be that of practical operations. Such are the stepping-stones. Research can never be the actuality. Every experimenter should seek to learn whether an inquiry upon which he enters may be applied to practical ends. If not, he should turn it over to those whose lives are devoted to research. The truth may not be acceptable to all, but it is none the less a truth, that the centre of this orbit is the poultryman, engaged in making his living and feeding his customers, not the scientist in his laboratory, nor the experimentalist on his plots. They are his co-workers, not he theirs.

The educationist has another duty to perform. Sometimes contempt is poured upon instructors because they are not highly trained scientists on the one side, or as expert in handiwork as the bread-and-butter poultryman on the other. That, however, may be ignored. The business of the instructor is not to experiment or to run a poultry-farm, but to disseminate proved knowledge. He must be practical, otherwise he cannot help those whom he is out to serve. He must be able to understand the meaning of scientific terms, and translate them into the idioms of ordinary life. Frequently, and rightly so, fault is found with bulletins and reports that are not understandable by 99 per cent. of those to whom they are issued. The value of learning is not how much we know, but what proportion we can pass on to our fellows. Some investigators are absolutely useless for teaching. They think in terms which are not understandable by farmers or students. Therefore instructors are the media through which knowledge from research, experiments, and practical operations can be focussed and distributed in a vivifying stream

man, if he thinks fit, may speculate, but that is not the teacher's province. Public money should never be employed in dissemination of mere theories, but of actual facts, so far as we know them. Experiments often teach more than demonstrations, certainly more than mere statements. Repetition, therefore, is warrantable. What dissection of the human body is in training the medical student, practical and experimental work is to the poultryman.

What then are the problems which present themselves largely as a result of intensification of methods, and to which attention must be directed? It will suffice if a few of these are indicated. It must be remembered that in dealing with animal life we are working in directly opposite ratio to plant growth, and that what is addition in one case is subtraction in the other. How much we obtain from the soil in cultivation depends in a large measure upon what is already there, or what is put into it. Whereas the animal is contributory; what he can obtain from the earth without harm to himself is all-important.

First and foremost stands the question of relative productiveness of our poultry, individually as well as collectively. Under intensive methods of poultry-keeping, we may increase the number of fowls kept to the defeat of our enterprise, because cost may grow more rapidly than returns, and for other reasons noted below. Profit is dependent upon the average production beyond the charges for maintenance. During the long centuries which have elapsed since the fowl was domesticated, influences have been at work slowly but surely making for enhancement of the productiveness of poultry. The hen, as we see her to-day, embodies the accumulated influence of generations, whether in the number of her eggs or her muscular developments. In spite of all that has been done during the last twenty

years by selection, the question whether the average production has been raised to an appreciable degree remains to be answered. Evidence available would show that after ten years' trap-nesting the averages realised in large flocks are hardly a fraction over what they were at the beginning. If so, it would suggest either that our methods are wrong or that we have attempted the impossible in the period named. That the average laying of English farm hens is higher than was the case a generation ago is unquestionable, but it is due to the introduction of new and more prolific races, rather than to selection upon the lines indicated above. Records show that proportionately there were as many high average hens as there are now. There is, however, no aspect of poultry-keeping which demands attention more than this. We have not only to attain the summit, but to maintain what has been secured. The quality last added is most easily lost. In this respect inherent qualities are to be considered. Mendelism may help to resolve the problem, but as yet its practical value has not revealed itself. Inheritance, however, is not all. Climate, soil, and food supplies may all be contributory; whilst, on the other hand, exhaustion of natural forces as a result of pressure beyond the recuperative power, especially when the accumulation of successive generations, may be a factor to which due consideration has not been given. In these directions the fields open to research and experimental work are almost limitless. Our knowledge of the essential factors is meagre in the extreme.

Second are questions of breeding in all their relationships. Upon these more is known. It is evident, however, that to a large extent the tendencies are to the production of neurotic fowls, modified somewhat by wide distribution, by the numbers bred, and by the way in which weaklings succumb. As a result of sheer ignorance, or owing to lack of appreciation in immediate loss of vigour, many breeders sail perilously near the wind. They are brought sharply up by unknown influences, and often find that in the long run natural methods and natural treatment pay best. How to maintain virility, how to restore vigour without sacrifice of essential qualities, whether what is known as the introduction of "fresh blood" is all-important, and what is the penalty of consanguinity, all demand inquiry in the light of intensification, with its accentuation of adverse tendencies. These alone may need a hundred years to provide us with positive knowledge. What we think at present is mere empiricism.

Third is the relationship to and influence of environment. That includes questions of hygiene in the widest sense. Sanitation is as necessary for poultry as for human kind. Under natural conditions birds instinctively remove themselves from one place to another. We compel them to remain

all the time upon the same range. Questions of soil, of atmosphere, and of physical energy are also involved. By use of what are known as the colony house and portable house systems much may be done to provide and maintain hygienic conditions, but intensification is not so great as when range houses are employed. With the latter three factors would appear to explain why we meet with so many failures—namely, the cost of equipment and of maintenance, the danger to health as a result of accumulation of manurial elements in the soil, and the lessened activities of the body as all the food is provided. These suggest the problem as to how many fowls can be healthfully and profitably kept on a given space over a continued series of years. It is not the first or the first five years which test any system, but the after results. Nor is it the amount of land in occupation, but that used by the fowls. The decimation of turkeys by blackhead in New England would appear to be entirely due to this cause. And it may be that many diseases which affect fowls in all countries are the result of bad conditions, for there parasites and bacteria find a happy breeding ground. They are



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the effect not the causation. All attempts in combating these diseases will be in vain until the basal influences are altered. The booming of systems for keeping poultry by the thousand per acre, systems that are intensive with a vengeance, may lead to great disaster when time has brought about the changes which will assuredly result. There are in this connection two questions which present themselves—namely, what is the immediate result and what the prospective influence? Of these the latter is the more important.

Fourth, we have to consider artificial methods of hatching and rearing. Without these the

advancement of the poultry industry, which has marked recent years, could not have taken place. These appliances are a necessity. But in spite of their universal adoption, all the evidence is in proof of the fact that they are only second best. Two spheres of inquiry present themselves to the experimentalist—namely, why eggs hatch better under hens than in a machine, and what are the causes, and to what is due that *bête noire* of the poultryman, death in shell, as well as the reason for later mortality in brooder chicks? Bitter indeed has been the experience, many are the lessons we have learnt, marked indeed has been the improvement as a result, but the fact must be recognised that we are infantile in our knowledge. It is not the immediate result of one year's adoption of artificial methods, but the accumulation of such influences increased season by season, against which we have to battle. We need years of careful observation to determine such questions as these, and any conclusions arrived at can only be after prolonged and exhaustive inquiry. Practical experience has taught many poultrymen that breeding stock should be the progeny of fully matured parents, and that they are more vigorous if hatched by natural methods. It may be also that the material of which incubators and brooders are built has a malign influence on embryo and chicken, and that something is drawn from them which a hen does not extract. The field for research and experiment is wide indeed.

Fifth are feeding problems. In this case the practical poultryman is at a great disadvantage, in that he must employ what food is obtainable. Chemists can help him to a considerable extent, as can those who are able to point out newer or better forms of plant life. Cost, however, is not everything, though it must be greater under intensive methods, by reason of the fact that natural food supplies are diminished if not entirely destroyed. Changes of habits of life profoundly affect the digestibility, or rather, the ability to digest, and these are greater where the activities are restricted. A further point is that many of the foods supplied to fowls are unnatural, and would never be selected by the birds if they had any choice. We should aim to discover what are the elements which fowls would obtain fairly under natural conditions, and endeavour to supply these as nearly as that is possible, supplemented by a reasonable stimulus to production. In this direction research and experimental work must go hand in hand. The former is useless without the latter. A food may prove chemically perfect in the laboratory, and yet be useless because it lacks palatability or is indigestible.

Sixth is the wide field for investigation of disease, which forms one of the higher branches of research. In this direction experimentors can do comparatively little, but the practical poultryman must be the determining factor in saying whether suggestions made are of any service. Many years ago the late Louis Pasteur recommended inoculation of fowls as a protection against chicken cholera. The remedy was as bad as the disease. Farmers rightly said that they would rather wring the necks of all their chickens than be bothered by inoculating each one. However effective it might be, the system was not practical. That is a danger we have to guard against. Time has been spent in seeking for races of turkeys immune to blackhead, and spent in

vain. It is of interest to know the life history of every bug that exists, and research can reveal to us the forms which bacteria assume. The section, however, of every bulletin that counts is that which suggests how these creatures may be prevented from coming into being, and what are the conditions favourable to them. These form the supreme object of disease investigation. For this work we want the most skilful scientists that we can secure, men who are able to tell the poultryman the cause so that he may prevent. The day has gone by when amateurs can deal with such questions. The interests involved are too great. An outbreak of disease on one farm may devastate a country. Therefore it is a question for which knowledge and experience of the highest order are essential factors, and should be at the service of all.

Seventh are questions involved in the sale of produce equally for the help of producers and the protection of consumers. Preservation of eggs, fattening of poultry, conditions which conserve quality and those which adversely affect it, flavour and palatability, are all involved. And in these days of trade manipulation and chicanery we have to protect the consumer and the producer by making hard the way of transgressors.

Such conditions as are here submitted are merely suggestive. There are many others which might be named. With growing intensification more will arise. Every step taken in progression reveals risks unknown or non-existent before. It is the need of the poultryman, the difficulties which present themselves in his work, that is clamant for greater knowledge, for wider experience than his own. Research and experiment are essential to his success. The tendency with one class of poultryman is ever towards intensification. It is only by such methods they can attain success. The farmer who distributes the fowls over his occupation has fewer risks to run, although he has much to learn, and may be aided in his labours. Each of these, however, must co-operate with Nature, and a knowledge of the laws and forces operating with irresistible power will make their work easier. Our business is to discern these and spread the knowledge gained as widely as possible. The investigator should be impressed by the magnitude of his task, the instructor by the importance of reliable data. The responsibility upon each is great indeed. To them is committed the future of the great industry in which we are concerned. They can mould the people within the area served by them for the next generation. Dissemination of false methods, neglect to adequately deal with the problems as, nay, possibly before, they arise, may spell disaster to hundreds and thousands. Great as is the work now it will yet become greater, and the charge committed to instructors and investigators in all countries is one which should call forth their greatest powers and inspire them with the dignity of their calling.

Death of Mrs. A. F. Hunter.

The deep sympathy of all who know him will go out to Mr. A. F. Hunter, editor of *Profitable Poultry*, in his bereavement. Mrs. Hunter had been in delicate health for some years, and passed away at their residence, Abingdon, Mass., U.S.A.

AMONG THE BIRDS IN SEPTEMBER.

By J. W. HURST.

THE WEATHER INFLUENCE.

Whether the prevailing excessive heat and remarkable drought continues into September or not, it has already been sufficiently severe and continuous to exercise a by no means inconsiderable influence upon poultry and methods of management, and the effect must in some measure remain after the weather has changed. In many cases condition has been inimically affected, whilst broodiness has been increased and moulting has of course been precipitated. In nearly every situation growing herbage has been short and poor in value, whilst natural animal food has been scarce. It consequently follows that, unless unusual care has been exercised, the majority of birds of various ages and descriptions are not in their proper form for the time of year. In the circumstances it is, therefore, inevitable that the cost of production must in most instances be higher than in normal years, either as a consequence of neglect or of a more expensive dietary—and economy lies in the latter direction.

THE PULLETS.

During the month the nutritive value of the food given the earlier-hatched pullets must be increased in order to induce the near commencement of egg-production. These birds should be in their permanent quarters, which must be provided with properly prepared nesting places, the nest boxes being placed in sheltered positions—but not where they will be overlooked by the birds. Birds that are allowed comparative freedom should be watched when their combs begin to redden, lest they develop the troublesome habit of laying away; but comfortable boxes, with clean material, will do much to obviate this risk. The actual commencement of laying should be induced or retarded according to the age of the birds and the general fitness of their growth, development and condition. In no case should pullets be encouraged to lay until they are from six to seven months old, and as the birds now running are often of various ages and in different degrees of fitness it is obvious that all pullets should not be in one flock, subject to similar feeding and treatment. The earlier birds may now be gradually encouraged, but those of later hatching must be held back. The present condition of the more forward stock must be the best guide to their proper treatment, and to retard laying where required the birds should be subjected to constant change of ground and given only a maintenance diet—the treatment being practically the opposite of that usually advised for the promotion of production.

FEEDING THEM.

As the birds arrive at that stage of maturity that indicates the nearness of production they may be fed upon the following general lines. Soft food mixtures should be given in the morning, and a suitable mixture may be composed of: Two parts each of Sussex ground oats and sharps, and one part each of ground barley and lean meat. When the weather turns colder the mixture may be varied by the introduction of scalded bran and

cooked maize—using these in place of the ground oats and barley, and otherwise re-arranging the ingredients for the sake of change. Even with a free grass range the character of the herbage will be insufficient for the requirements—especially this year—so that the dietary must include a supply of suitable vegetable food to make up for the deficiency of the range in this respect. Well chaffed and properly scalded clover hay may be included in the morning mash, or finely chopped cabbage may be used as an ingredient of the mixture. Fresh vegetable food for separate feeding may include mangolds, swedes, and beets. For evening grain feeding oats and wheat make the best staple foods, but some use may be made of barley and buckwheat—with maize sparingly, according to the circumstances. Feeding for egg-production involves a considerable amount of nice discrimination, and experience is required as well as theoretical knowledge—not the least danger of inexperience being that of over-feeding. The quantity of food actually required varies individually, and according to breed and prevailing conditions. It is practice alone that enables the beginner to discover what is a safe allowance for bodily sustenance—plus the surplus from which eggs are produced, without overstepping the mark and tending to form fat instead of eggs. It is also essential to avoid food that is too stimulating in character, otherwise production will be unduly hastened and the result will induce double-yolked or shell-less eggs.

PREPARATION FOR MATING.

The preparation for autumn mating necessitates the careful selection of the male birds, and unless these have been already reserved or bought it must be remembered that the introduction of unknown blood involves risks, but that these may be minimised by ascertaining the characteristics of the particular strain and the probable course of breeding. Health and maturity are important essentials on both sides of the pen, and the best breeding condition is promoted by activity.

The Work of Specialist Clubs.

The *Sydney Morning Herald* thus explains why so many specialist poultry clubs have ceased to exist:

The objects were to encourage the breeding and exhibiting of the respective breeds, and to see that they were adjudicated upon by competent judges. The principal reason of their going to the wall was that members expected too much. The winners got no extra prize-money, while those whose quality was not good enough to get into the money at exhibitions of the established societies did no better under the clubs' régime, and were only contributing entry fees to pay prize-money to those who had better stock. In almost every breed there are a few at the top who appropriate the bulk of the awards, no matter who judges, and the weakness in the management of the late clubs was that no effort was made to recognise the birds which, though excellent, failed to reach first place. No matter how good or medium the birds may be, only one can win, and to pile all the money on this specimen, while pleasing to the lucky one, affords no encouragement to those whose exhibits are just about as good.

NATIONAL POULTRY INSTITUTE.

IT has been determined by the Provisional Committee, which was formed a year ago, to take immediate steps for securing funds to establish and maintain a National Poultry Institute on a broad and efficient basis. The delay was unavoidable, due to circumstances over which the committee had no control.

The committee responsible for this action is highly influential, inclusive of ladies and gentlemen of position, among whom we see are Sir C. Thomas Dyke Acland, Bart., Lord Blyth, Sir Francis A. Channing, Bart., Sir S. H. Leon, Bart., Robert Mond, Esq., Capt. J. A. Morrison, M.P., the Marchioness of Salisbury, Col. Van de Weyer, F. W. Verney, Esq., and Col. R. Williams, M.P., together with representatives appointed by the Agricultural Organisation Society, the British Dairy Farmers' Association, the Central Chamber of Agriculture, the Central Land Association, the National Poultry Organisation Society, the Poultry Club, the Royal Agricultural Society, and the Utility Poultry Club, and Mr. Edward Brown, F.L.S., is acting as *Hon. Secretary pro tem.*

The scheme states that the objects are :

1. To investigate and demonstrate the best methods of breeding, rearing, and keeping all kinds of poultry, with a view to the increased production of eggs and table poultry, and the preparation and marketing of such products.
2. To investigate and demonstrate the best methods of improving the characteristics and qualities of the various races of domestic poultry, the means of improving their productiveness, and the creation and introduction of new races.
3. To inquire into difficulties which affect poultry-keeping, with the object of discovering the causes and showing how these may be removed.
4. To conduct research and experimental work in relation to methods of poultry-keeping, with a view to their improvement.
5. To teach the various branches of poultry-farming by means of lectures, practical instruction classes, or any other method that may be regarded as desirable.
6. To disseminate information as to poultry-keeping by means of reports, bulletins, &c., giving the results of investigations and research.
7. To promote generally the interests of poultry-keepers of all classes, and thus encourage greater and improved production.

For the accomplishment of these purposes it is intended to co-operate with various public bodies, and to establish, equip, maintain, and develop an Institute and Farm at and in connection with which investigation and research can be conducted, and advanced instruction be given on matters relating to poultry-keeping, together with the sciences bearing on the same, and whence the results of such investigations and research can be generally disseminated.

It is proposed that the farm shall be of at least forty acres, part of which would be occupied by buildings and laid out in runs. The Institute buildings proposed to be erected would include rooms for administration, lectures, museum, laboratories, &c., and the poultry plant, incubator and brooder houses, poultry houses and runs, on an extensive scale, enabling the work of teaching, experiment and

research to be conducted on a broad basis, and for a large stock of poultry to be maintained. If this scheme as foreshadowed be realised it will be the finest poultry centre in the world.

The capital cost is estimated at £17,000 to £20,000, and the annual charges for staff and maintenance at £4,000. An application has been lodged with the Treasury for grants from the Development Fund, which, together with support from private and other public sources, will, if obtained, enable the Provisional Committee to carry out this scheme, one that is essential to the further progression of the poultry industry, and to the increased development of our national resources, equally as to instruction in the higher branches of poultry-keeping, and to research in which we have been lamentably deficient.

On August 16, 1911, the Earl Carrington, K.G., President of the Board of Agriculture, received at 4, Whitehall Place a deputation from the Provisional Committee of the National Poultry Institute, consisting of Lord Blyth, Mr. Charles Bathurst, M.P., Hon. M. Hicks-Beach, M.P., Sir Francis A. Channing, Bart., Mr. B. W. Horne, Mr. W. A. Jukes, Mr. Ernest Matthews, J.P., and Mr. Edward Brown, F.L.S. The President was accompanied by Sir Thomas Elliott, K.C.B. (Secretary), and Mr. T. H. Middleton (Assistant Secretary) of the Board of Agriculture.

Lord Blyth, introducing the deputation, called attention to the poultry industry and to the need for its development. He explained that the Provisional Committee had made application to the Treasury for substantial grants from the Development Fund for the establishment and maintenance of a National Poultry Institute on broad lines. The support of the Board of Agriculture was asked to this application, and Lord Blyth mentioned that in the growing needs of our population, after bread and milk, eggs are becoming the most important articles of food, especially in view of the inquiries in connection with tuberculosis.

Mr. Charles Bathurst, M.P., showed that one of the great objects of the National Poultry Institute would be higher teaching, research into the problems of the poultry industry, and practical experimental work. He referred to the fact that in these directions we have been very much behind other countries, more especially the United States, where large support has been given in a similar way.

Sir Francis Channing, Bart., called attention to the importance of the poultry industry to small and allotment holders, and that these would assuredly fail unless they were guided on to right lines.

The claims of the National Poultry Institute were also supported by Mr. B. W. Horne and Mr. W. A. Jukes.

In reply Lord Carrington expressed his warmest sympathy with the proposal and supported what had been said, that it was desirable such an Institution should be on independent lines and not form part of another Institute. He promised the sympathetic consideration of the Board of Agriculture to the proposal when it came before them in due course.

A hearty vote of thanks to Lord Carrington was proposed by Mr. Charles Bathurst and seconded by Mr. Edward Brown, F.L.S.

POULTRY-KEEPING IN EGYPT.

By J. STEPHEN HICKS.

IT was my good fortune to receive, quite recently, a visit from a gentleman who wished to take back with him to Egypt a few pure-bred birds for the purpose of grafting them on local stock. After a pen had been selected, we fell to exchanging experiences and comparing notes, and I discovered that my visitor, whilst not being in any way a fancier, was at all events a keen student of poultry and their breeding.

Perhaps the most interesting topic was that of the egg-ovens, and though my informant had never actually been inside one (the attendants seeming to dislike this, and, in addition, the aperture into the oven being dirty, and only about two feet square), he had frequently sent eggs there, once receiving sixty odd chicks from seventy-five eggs, and usually an equally high percentage, for a nominal charge. It appears that these men practically live inside the ovens during the season, the eggs being incubated at various stages. Being accustomed to the process from childhood, and by acquired, or perhaps inherited, instinct, their bodies are so sensitive to any change of temperature within the oven that they are enabled to tell at once if the heat is too great or too little, when they reduce fires, or stoke up accordingly; they also make a clucking noise while turning the eggs.

On one occasion this gentleman happened to sell some eggs for hatching to a native, and two or three days afterwards his gardener told him the man had returned with five eggs that would not hatch. "But how can he possibly tell yet?" said my informant. "Oh, he says, sir, the man at the ovens would not take them in, saying they were not fertile." The eggs were replaced, but unfortunately there was no means of testing the truth of this assertion on the part of the attendant. I begged my visitor, should the occasion again present itself on his return to Egypt, to experiment with any rejected eggs and let me know the result.

Day-old chicks are hawked round the streets of Cairo, herded together in two large pannier baskets slung each side of a donkey. They fetch the most reasonable price of four piastres for ten, or just about a penny apiece. The hawker, on receiving an order, plunges his hand into the basket, and deals out the required number of chicks as if they were cards. No foster-mothers are required at any period of their existence, the sun being sufficiently hot by day, and the chicks being brought into the house in a basket at night.

The general run of native poultry is of a remarkably puny, if somewhat wiry, description. The hens produce an undersized egg, which can usually be obtained at the rate of six for a piastre, or under one halfpenny each. My caller, however (who resides on the fringe of the desert about six miles from Cairo), had managed to collect some specimens from the interior of the Fayoum Province with much better proclivities. He described them as coming fairly true to a type—active in appearance, a fair-sized body on very long legs, with markings somewhat similar to Campines, and a comb single or leaf (about 10 per cent. of the birds having top-knots), and as more than ordinarily good layers of white eggs. It was

his impression that some former Dutch or Belgian colonist had imported pure-bred birds from Europe, of which these were the more or less direct descendants. The English Wyandottes just purchased, or their progeny, are to be crossed with these lanky Brackel-like birds, with a view to the improvement of shape, table qualities, and to deepen the tint of the eggs.

According to my informant a great demand exists at excellent prices for really choice chickens and eggs amongst the huge hotels during the season at Cairo, and it was his impression that a poultry-farm run on sound commercial lines by a man experienced in the ways of local poultry would pay well in Egypt. People out there, to whom the subject has been broached, have, however, usually shrugged their shoulders and replied expressively "chicken-cholera." This dread complaint appears at intervals, and aided by the unsanitary methods of native poultry-keepers, sweeps rapidly through a district, simply wiping out all the fowls therein.

NOTE.—Having written the above, I despatched the manuscript to my friend, asking him if he would kindly add any other items of interest; also whether he could give any information concerning poultry in Egypt during the time of the Pharaohs, for I seemed to remember seeing the mummies of some favoured cocks and hens in the British Museum. The gist of his remarks is appended:

"The ovens work from January until April only, and all the eggs are put in as received without regard to the age of those already incubating. Airing, or rather cooling, is simply managed by the natural reduction of the fires night and morning, before being re-stoked. The natives feed their chickens from birth onwards entirely on crushed wheat.

"I have found that 20 per cent. of the Fayoumy fowls become broody, but are easily broken (and about 30 per cent. of the common native fowl). There is also a breed of Game fowls which the natives call Hindi, meaning Hindu or Indian; these are very similar to Malays or Indian Game, and are much larger than the native fowls, being bad layers and good sitters. All the Egyptian fowls lay white eggs, with an occasional tinted one.

"(Signed) MAURICE C. STUBBS."

BEST TABLE-BREEDS OF DUCKS.

OF white plumaged ducks, the Aylesbury is first favourite in the British Islands, and the Pekin comes a close second. Both are large-framed birds, and capable of being fattened without difficulty. The Aylesbury has the advantage of whiter skin and flesh, but the Pekin is more productive, and lays earlier in winter. Either breed suits excellently for the table-duck industry, but the Aylesbury is most in favour, chiefly because of its rapidity in attaining a marketable weight. When properly handled it is quite ready for the table nine weeks after it has emerged from the shell. Very good results have been obtained by crossing these two white ducks, and in this country the Pekin duck has been largely used to impart vigour and prolificacy to the sluggish Aylesbury.

There are so many ducks of worthless strain to be picked up at a small price that the beginner is apt to make the mistake of starting with inferior stock. This is a pitfall to be avoided, and it is better to expend a few pounds in the purchase of the best birds that can be got—just a few of them to start with—than to spend the same sum upon a larger number of low-grade birds. In this way a good foundation may be laid, and there is little difficulty afterwards in maintaining the high quality of the stock, and even improving it, from year to year. This can be done by exercising judgment in the selection and mating of the breeding stock, and in no other way. With regard to profitable duck-raising, we have more to learn from successful American duck-growers than from those at home who are engaged in the pursuit, because the same progress has not been made at home that has been made in the Western Continent within the past fifteen years. The American duck industry has grown to extraordinary dimensions within the time named. The following is the method of selecting breeding stock recommended by Mr. James Rankin, who is one of the most experienced and successful of duck-raisers. He says: "We do not believe in carrying any considerable proportion of one- and two-year-old stock over for breeding purposes. All our growing stock we push for all they are worth, and get all the growth we can in the shortest possible time. The young birds for breeding are picked from the growing-pens before the birds go to the fattening-pens, and only the choicest, most vigorous, and healthy specimens are reserved for breeding. The drakes for the following season's breeding are usually selected from the January- and February-hatched ducklings; and these are put aside in special yards to be kept for the winter matings. The ducks are not selected until the March and April hatchings have begun to develop, as ducks mature faster than drakes, and the ducks which are hatched in March are well fit for breeding the following November or even earlier."

On a farm where ducks for breeding are kept by the hundred, the feeding of them during that part of the year when they are not producing eggs is an expensive item, and for this reason only a small proportion of old stock is held over throughout the unproductive season, to be used as breeding stock for a second year. Another reason for relying upon young ducks as breeding stock is that, by highly nutritious feeding, the birds are forced to perform their best work during their first year. After they have ceased laying at the end of the breeding season, the sooner they are disposed of the better. Another point which is worthy of consideration is that ducks of a year old can be readily fattened and sold at a remunerative price for table, or they can be sold for breeding, whereas if they run to two or three years of age it becomes almost impossible to dispose of them, and they remain a dead loss on one's hands.

Progress in Illinois.

The Illinois Legislature has appropriated \$20,000 (£4,000) for purchasing forty acres of land adjoining the farm of the University of Illinois, and upon which a poultry plant is to be established.

PARTRIDGES TO SERVE HOT.

BEFORE being cooked the birds should be well hung, otherwise the flesh will be very hard and almost tasteless. In cool weather, and in a suitable place, they may with advantage hang for a fortnight, but in mild muggy weather the time of keeping must, of course, be considerably shortened. An experienced cook or housewife will know at a glance when the birds are ready for dressing.

ROAST PARTRIDGES.—If possible, the birds should be cooked before a clear hot fire, for then the basting can be done so much more satisfactorily, but if this cannot be, then a well-heated oven must suffice. In either case, the birds should be rather underdone or the flesh is apt to prove very dry. When done enough, dish up the birds on a bed of crisp, well-seasoned watercress, with a border of daintily-curved bacon round about, and serve good brown gravy and bread sauce as accompaniments.

BRAISED PARTRIDGES.—Prepare the birds in the usual way and truss them as for boiling, then put them in a stewpan with a little good butter, or pure beef dripping. Turn them about over a hot fire until nicely browned all over, then add as much brown gravy or well-flavoured stock as will nearly cover the birds and let them stew very gently until they are half cooked; then add two or three dozen carefully prepared button mushrooms and simmer again until the birds are done enough. Serve on a hot dish with the mushrooms poured over and round.

ANOTHER METHOD.—In France the birds are often braised and served as follows: Prepare and truss them in the ordinary manner, then cover them securely with thinly-cut slices of fat bacon and place them, breasts uppermost, on a bed of roughly chopped flavouring vegetables, which have been arranged in readiness in a stewpan; add a sufficient quantity of stock to ensure moisture, cover closely with buttered paper first, then with the pan lid, and cook very gently from twenty to thirty minutes, or longer if necessary. When done enough, take up the birds, and, after removing the bacon, &c., place them neatly on a hot dish; arrange a border of creamed cabbage round the edge of the dish, and upon this form a ring of carefully-cooked sausages, small and well browned. Serve very hot, accompanied by some well-flavoured brown gravy or some favourite sauce.

STEWED PARTRIDGES.—This is an exceedingly dainty method of cooking and serving the birds, and has also the recommendation of being simple in the extreme. When properly prepared and firmly trussed, put the partridges into a stewpan and cover them with boiling stock or water; add a bunch of herbs, a seasoning of salt and pepper and a few flavouring vegetables, and simmer gently until they are sufficiently cooked; then take them up, remove all fastenings, and keep hot while the sauce is being made. The choice of sauce is a matter of taste entirely, but celery, bechamel, or soubise sauce is especially good with stewed partridges. When ready, pour the sauce over the birds, garnish round about with some carefully-cooked suitable vegetable, or with crisply toasted or fried bread cut in neat finger pieces, and serve very hot.

PARTRIDGE PUDDING.—Butter very liberally a

pudding basin of the requisite size and line it out with some well-made suet pastry rolled out about half an inch thick; then have ready some fine, plump partridges which have been hung sufficiently long, and cut up into small joints, and pack these neatly into the basin with tiny rolls or slices of prime bacon in between. Season pleasantly with salt, pepper, and grated nutmeg and moisten with good brown gravy; then cover with a lid of the pastry, wet the edges and press them firmly together, tie a good, strong pudding cloth over the pudding, plunge it into boiling water, and boil evenly and constantly for three hours. When done enough, remove the cloth and turn the pudding out carefully on to a hot dish, pour over and round it some stewed mushrooms or a mushroom purée, and send to table at once.

SOUFFLE OF PARTRIDGE.—Remove the meat from some cold cooked partridges and mince it very finely, then pound it to a smooth paste, adding during the process a little seasoning of salt, pepper, and nutmeg, a small quantity of fresh butter, a few tablespoonfuls of good stock or gravy, and the yolks of three or four perfectly fresh eggs; last of all, stir in, very lightly, the whites of the eggs which have been whipped to a stiff froth, and turn the preparation into a well-greased pie-dish sufficiently deep to allow for the soufflé rising. Bake in a brisk oven for about ten minutes, then fix a frill round the dish, and serve immediately. If liked, a little good gravy or some well-made creamy sauce may be served; but as a rule the soufflé is preferred without any accompaniment.

GELSGAARD POULTRY PLANT.

By W. A. KOCK.

IT was a fine morning in springtime when I visited Gelsgaard, by Holte Station, eight English miles from Copenhagen. Mrs. Lörup, the



A BUFF ORPINGTON COCK BELONGING TO
MRS. LÖRUP. [Copyright.]

owner of the poultry-yard, is specialising in egg-production and spring chickens. Besides Leghorns there are kept Barred Plymouth Rocks and Buff

Orpingtons. A cross between Orpingtons and Leghorns are answering excellently as good spring chickens. The Buff Orpington cockerel shown on this page was bought by Mrs. Lörup last spring



SOME OF MRS. LÖRUP'S PEKIN DUCKS.
[Copyright.]

from an English breeder, and at the largest show in Copenhagen secured first prize.

The poultry-yard is laid out on good grass-land, and small colony houses are used, accommodating twenty to thirty hens each. In a large pond in the garden are found the Pekin ducks, which, at the leading shows, have secured many prizes. The ducks are of a very good size and type.

TWO "FANCY" ITEMS.

THE 1911 "GRAND INTERNATIONAL."

This year's International promises to be an international show in more than name. I have it on the very best authority that at the forthcoming event there will be a foreign section. The Club Avicole du Barbu Nain of Brussels is sending over 200 to 250 birds in the following classes, which will form a distinct section and be staged together: Barbus d'Anvers, in Noir, Coucou, Blanc, Caille, Caillouté, and Bleu; Barbus d'Uccle in Millefleurs, Porcelaine, Caillouté, and Blanc; Barbus du Trubbe, any colour; Barbus d'Everberg, any colour. There will be a class for cock or cockerel, and one for hen or pullet in each variety, twenty-four classes in all. M. Paul Monsen will judge Barbus d'Anvers and M. R. Pauwels the remainder. There will also be two classes for ducks (Canard de Forest), with M. Paul Monsen as judge. Fanciers will doubtless be pleased to learn that there will also be a great "gathering of the clans" at the forthcoming International, since already eighteen specialist poultry clubs will hold their annual shows under its wing, and these include the Brahma (ten classes), the Black Orpington, the Buff Orpington, the Variety Orpington (twenty-two classes), the United Wyandotte, the Leghorn (sixteen classes), the Buff Plymouth Rock, the Minorca, the Sussex, the Houdan, the Ancona, the Campine, the Black Sumatra Game Fowl, the Silkie, the Sebright Bantam, the Brahma Bantam, the Rosecomb Bantam, the Crested Duck, and probably three or four others. The classification for Orpingtons will be the largest that has ever been given at any show, since in addition to the clubs already mentioned (and the Variety Orpington Club embraces the White, the Jubilee, and the Spangled varieties), there will be three classes for Blues, two for Cuckoos, and one for Reds. Mr. T. Threlford (23, Lime Street, London, E.C.) is still at the head of affairs as Hon. Secretary of the poultry section.

LEGHORNS, LIONESSES, AND LEMURS!

I believe it is well known throughout the poultry Fancy that for the past few years Mr. G. Tyrwhitt Drake, F.Z.S., M.B.O.U., the worthy hon. secretary and treasurer of the Poultry Club, has kept all eight varieties of Leghorn fowls, and he is, I believe, the only fancier with such a record. Of recent times, however, he has been "hobbying" in another direction, collecting wild animals and birds; and to such an extent has he gone in for that hobby that he has decided to somewhat reduce his poultry. Scientific breeding and the Mendel Laws notwithstanding, Mr. Drake, like many another good poultry fancier, finds that it is absolutely necessary to breed a considerable number of chickens from which to pick winners in each variety; hence he has decided to give up Black, White, Blue, and Buff Leghorns, and devote his time to the remaining four varieties—viz., Brown, Duckwing, Pile, and Cuckoo. I notice he does not mention the Red and the Partridge, or even the Mottled Leghorns, so presumably he does not consider them as belonging to the breed! In connection with his "wild beast show" it may be mentioned that Mr. Drake is hon. secretary and treasurer of the Amateur Menagerie Club, and that his private

collection now contains close on seventy wild animals and birds, including three lionesses, three bears (different varieties), four wolves (three varieties), jackals, wild dogs, foxes, lemurs, and also several small animals, while among the birds are two American ostriches, a golden eagle, a vulture, and numerous parrots, and of the grass-eating animals, foreign goats, deer, cattle, and sheep. One trembles to think what would happen if free range were allowed! But this is scarcely likely to occur, since the cages I saw when I paid a visit to Cob Tree some time since were built on the most approved lines, and strong enough to confine elephants. It is perhaps as well for the nightly peace of the residents of Sandling, Maidstone, that Mr. Drake's menagerie is in a very large park, and well away from "the madding crowd." Cock-crowing, the supposed bane of the city dwellers' existence, would be nowhere compared with the din of the "wild kings" at meal times!

W. W. B.

YORKSHIRE NOTES.

By FRED. W. PARTON.

WHILE the live poultry section at the Royal Yorkshire Agricultural Society's Show at Rotherham, both in number and in quality, was entirely satisfactory, it is a most regrettable fact that the dead poultry exhibits were far from what might reasonably have been expected. It is somewhat difficult to account for the lamentable display—twelve entries in light class; the classes for cockerels and for pullets, those for pure and for cross breeds, and those for fattened and unfattened chickens having but one entry per class.

The extremely hot weather perhaps was one reason why people were so chary about entering into competition. The suggestion has been made that the table-fowls should be shown alive, and, of course, there is a great deal in the suggestion in that the birds may be exhibited again and again. However, the fact remains that something should be attempted to stimulate this branch of economic poultry culture.

The lack of interest in dead table-poultry is not confined to Yorkshire alone, but the same may be said of other counties. It is very well known that at the present time, and especially so in Yorkshire, more particularly in the West than either the North or East Ridings, egg-production is of greater importance than table-poultry. At the same time, there is not sufficient reason why the latter should not receive attention. I know of fanciers, many of whom were among the chief winners at the show in question, who sold their cull cockerels at 7s. a pair, and to obtain such prices—especially in a part of the country not renowned for high prices—it will be understood that the birds were good, which says much for the utility properties of birds which are bred for fancy purposes.

The live poultry section brought together the leading fanciers in the country, and the universal opinion was that the quality was of a very high order, the exhibition being the best in the history of the Yorkshire Agricultural Society. Every class brought forward a good entry, and competition was indeed keen.

POULTRY PRODUCERS' INSTITUTE DAY AT KILMARNOCK.

THE second annual Poultry Producers' Institute day was held at Holmes Farm, Kilmarnock, on Saturday, August 19, and the meeting proved a very great success. A full programme was arranged, including addresses and practical demonstrations, and certain phases of the industry were dealt with in an interesting and instructive manner. The meeting opened at noon, with Mr. Thos. Hunter in the chair. The chairman's remarks were brief, but to the point, as there was a long programme to be carried through. The order for the day was as follows:

- 12 noon Chairman's Remarks.
- 12.15 Paper: Results of Co-operative Organisation.
- 12.45 Demonstration: Trussing for Roasting.
- 1—2 Interval for lunch.
- 2.0 Demonstration: Boneing.
- 2.15 Paper: Principles of Breed Development, by Mr. Wil Brown, Holmes Farm.
- 2.45 Demonstrations: Trussing for Boiling; Egg Testing and Grading.
- 3.0 Address: Poultry-Keeping in Ireland, by Mr. P. A. Francis (Irish Department of Agriculture).
- 3.30 Demonstrations: Trussing for Roasting; Egg Testing and Grading.

The practical demonstrations were given by Miss Kinross and Miss Macglashan, and these added greatly to the success of the day.

Unfortunately, it is impossible to give the addresses in full; therefore we make the following quotations:

In the course of his remarks, Mr. Francis said: Probably there is no country in the world where the industry of poultry-keeping occupies such an important position in the daily life of the rural community as is the case at the present time in Ireland. With a total population of about 4½ millions—a large proportion of whom are city or country town-dwellers, and consequently keep few or no poultry—there were in 1910 24,339,015 head of poultry in the country.

There are in Ireland at least 427,375 holdings under 50 acres in extent, and 85,644 holdings of less than one acre in extent. The value of the poultry industry to the occupiers of these small holdings can scarcely be over-estimated. In many cases existence would be rendered difficult—if not impossible—without the frequent and regular cash receipts obtained from the sales of eggs and poultry. How this individual production bears upon the national prosperity of Ireland is seen at once from the following figures:

EXPORTS FROM IRELAND IN 1909.

Poultry and Eggs	£3,753,465
Butter	3,625,111
Pigs	5,000,000

These figures for poultry and eggs do not include any parcel post trade, which probably amounts to about £30,000 annually. If the home consumption is assumed to be of the value of £2,000,000 annually—and, in my opinion, this amount is, if anything, an under-estimate—we see that Irish poultry-keepers produce goods worth nearly £6,000,000 sterling annually—a sum the most “anti-

hen” farmer cannot despise. Irish poultry exports have shown a steady and almost continuous annual increase in the last few years; and, considering the suitability both of the Irish climate and farming conditions and the proximity of the market of Great Britain, there is, in my opinion, great scope for further development.

In dealing with the question of “The Principles of Breed Development,” Mr. Brown remarked: I think it will help the discussion of this subject if brief reference is made at this stage to the advancement that has already been brought about, since this will indicate directions in which further development may be possible.

BREEDS.—From the four original types of the different species of poultry—fowls, ducks, geese, and turkeys—we have hundreds of breeds and varieties. Many of the most popular and profitable of our present-day poultry were unknown forty years ago.

SIZE.—With the exception of the Bantams, increase of size has been from one to four hundred per cent.

EGG-PRODUCTION.—Instead of the twenty-two to twenty-six eggs laid by the wild progenitors—the jungle fowl of India—we have breeds normally producing eighty to 150 eggs per annum.

FLESH QUALITIES.—If we compare the quantity and quality of the flesh on the jungle fowl with that of our best table-breeds, a vast progression is evident. Early maturity has also been attained to a degree at one time thought almost impossible.

MATERNAL INSTINCT.—This has been practically suspended in some breeds without curtailment of the laying quality with which it is associated.

The question as to how these vast improvements have been achieved is of deep interest, since some of the factors we understand; but, again, about many we know little or nothing. One thing is certain, however—namely, that natural selection has played a very important part, assisted undoubtedly by changed environment with new conditions of soil, of climate, and of food.

In the case of egg-production, many influences have been at work. We must remember that the improvement indicated above is the result of generations of selection, and not a sudden abnormal development, a result that can seldom be maintained. Many things have contributed their share to the result. The selection of the breeding-stock has played its part; the introduction of breeds of high fecundity, or which, by change of conditions, have developed on that line, or which have responded to the greater care and the special food given to them, has also assisted. To leap from the twenty-two eggs of the jungle fowl to the 100 of the farmers' bird would prove fatal, even were such a thing possible; but to work up to that total through a long series of years has been possible. This is encouragement for the future until the limit of production has been reached, provided we realise at the outset that progress must be slow. Increased production will always tend to infertility, and to the weakening of the constitution if too rapid, and until Nature has had time to recover her balance.

There is another factor that has helped to a great extent in this direction. For some years past laying competitions have been organised at home and abroad, and these have had a direct influence on the average economic value of our fowls. This

influence has, perhaps, been more in the direction of acting as an incentive to poultry-keepers generally to improve the quality of their stock. By comparison their birds appear poor in the light of the achievements of some of the winning pens, and this has engendered discontent. There are several points that, in my opinion, are worthy of reconsideration in connection with these competitions. For one thing, the period of test should be increased to one **and** two years, and then definite conclusions might be formed as to their exact influence on the poultry industry. I believe, also, that breeders are making a very great mistake in that the birds competing in these tests have been used the same year as breeders.

The educational value of laying competitions is sufficient to warrant the expenditure of public money, and such money must come in the form of adequate grants, since the cost is too great for any voluntary society. We propose to demonstrate this system of trap-nesting at Holmes Farm over a series of years, beginning this October, so that we may prove to our own satisfaction that the opinions we hold are correct. Incidentally, I may remark that we propose to publish results at stated intervals.

The trend of affairs at the present appears to be largely in the direction of the formation of new breeds, but I think we should ask ourselves whether we have made the most of those we already possess. Enlargement of choice may prove a positive hindrance.

As I have already suggested, our one aim is to benefit producers and to conserve and extend the national resources, and all other points can but be secondary. We must consider in all things the requirements of the future to fill up the void created by reduced imports from abroad and to anticipate the changes which are not yet fully realised. It is not sufficient merely to tread in the same path as traversed by our forefathers. To this end, the most important factors are educational facilities for all grades of poultry-keepers, experimental work in order to discover better methods, combined with a readiness on the part of farmers and others to take advantage of such facilities.

Central and local authorities are awakening from their long sleep. Education, production, organisation are equally important, and must march side by side. I take it that the object of a meeting of this kind is not only to give guidance to poultry-keepers, but to supply that impelling force that will overcome every obstacle, whether raised by the inertia of public bodies or the lethargy of individuals. We must awaken the sleepers everywhere.

Owing to the unavoidable absence of Mr. John Drysdale, secretary of the Scottish Agricultural Organisation Society, a paper was read by Mr. Wil. Brown dealing with the working and the results of co-operative organisation in Denmark. As Mr. Brown pointed out, it was impossible for him to enter into details showing the beneficial results that have accrued from co-operative enterprise, since he did not possess the same intimate inside knowledge as would be in the possession of one in Mr. Drysdale's position. The lessons to be learnt from Denmark, remarked Mr. Brown, are numerous and important, for certainly that country is well in the van as regards this special form of marketing.

THE UTILITY POULTRY CLUB.

IN publishing their Quarterly Circular the Committee of the Utility Poultry Club draw special attention to their forthcoming Laying Competitions. In the February Circular information was received that there was little likelihood of the Development Commissioners dealing with the club's application for a grant until some time had elapsed, the commissioners being occupied with the larger and more important applications. It was suggested that if the application for a grant towards the expenses of a competition came from a college receiving a Government grant there would be much better prospects of the application being considered. With this end in view various bodies were approached, and ultimately a scheme was formulated with the Harper Adams Agricultural College, Newport, Salop, who were prepared to conduct the competition, and in due course the application was made. Unfortunately, a technical difficulty arose, and there was a danger that the commissioners would consider the competition as educational, rather than experimental and scientific. As the educational grants are being made to the County Councils it was obvious that a scheme must be formulated on a broader basis to come within the category of research work for which the Board of Agriculture and Fisheries are to receive a "block" grant of £40,000.

The scheme agreed with the Harper Adams College provided for a competition being run for 100 pens, the college supplying the land, and the manager undertaking the entire control and financial responsibility, the commissioners being asked to make a grant sufficient to pay for the whole of the plant and equipment. The entry fee, on the basis of the plant being supplied out of the public chest, was to have been fixed at 30s.

The college have now agreed to negotiate with the club for a competition to be run for at least two years, at which progeny tests shall be carried out; and it is hoped that with this additional feature the competition will be sufficiently experimental and scientific to make the scheme more attractive to the commissioners and the Board of Agriculture and Fisheries. The scheme cannot be got out until some time has elapsed; but it is hoped that a grant may be obtained in time to make it possible to start a competition in October, 1912.

The Utility Poultry Club have arranged to hold the annual Four Months' Laying Competition in two sections, commencing on October 17 next, one at Bartle, near Preston, Lancashire, under the management and personal supervision of Mr. William Barron, and the other at Grimley, Worcester, under the management and personal supervision of Mr. George Nicholls. Both these managers conducted their respective competitions very successfully last year, when records were established.

Accommodation will be provided for forty pens in each Competition. All birds will be penned on good grass land not previously used for poultry, and trap-nests will be used, the record of every bird being accurately kept.

The awards offered by the Club to the owners of winning pens—those laying the greatest value in eggs—consist of gold and silver medals, certificates, and cash prizes.

Full particulars can be obtained from J. N. Leigh, Iden, Rye, Sussex, on receipt of a stamped addressed envelope.

The Competition is open to anyone, whether members of the society or not, and in the event of there being too many entries, the places will be allotted for. All entries must be lodged with the secretary not later than September 9.

Reports will be issued monthly, giving an account of the progress of the Competitions.

NORTHERN UTILITY POULTRY SOCIETY.

To the Editor of the ILLUSTRATED POULTRY RECORD.

DEAR SIR,—I have much pleasure in informing you that the Society are making arrangements for running the *Annual Four Months' Laying Competition* on more extensive lines than on any previous occasion. The £50 prize, won by myself in connection with the ILLUSTRATED POULTRY RECORD, will be utilised to provide houses similar to those used by Mr. Will Barron in the U.P.C. Competition at Bartle with so much success last winter. Arrangements have been made with *Messrs. Burrell and Thornton, Whittlefield Farm*, to provide, for the purposes of the Competition, land which has not previously been used for poultry. The management of the Competition will also be in their hands. It is proposed to run the Competition in *two sections, Open and Local*, with two sets of prizes, in order if possible to encourage some of the smaller breeders to take part in the Competition. The Open Section can be entered by any person wishing to do so at an entrance fee of £1. The Local Section will be confined to a radius of eight miles of Burnley, at an entrance fee of 10s. 6d., but any person residing in that area may enter the Open Section if they wish to do so. The Committee will be pleased to receive offers of *Special Prizes* for either section at as early a date as possible, so that final arrangements may be made.—Yours truly,
C. LONGBOTTOM, Hon. Sec.

RED ORPINGTON CLUB.

To the Editor of the ILLUSTRATED POULTRY RECORD.

DEAR SIR,—In Mr. Broomhead's notes on Fanciers and Fancy Matters in this month's RECORD he makes mention, under the title "The Red Boom," of the words "What difference is there between the Red Orpington and the Red Sussex?"

If you will kindly allow me a little space I would like to inform Mr. Broomhead that the two breeds are as different as chalk is from cheese. The Red Orpington fowl, lately introduced by Mr. W. Holmes Hunt, is more or less a replica of the Buff all through, which is well known as a self-coloured bird, the only difference being that the Red Orpington is a dark mahogany instead of a buff.

On the other hand, the standard for Red Sussex demands that the head and neck hackle shall be striped with black, and wings with black in flight, together with a black tail.

This black is not required in the Red Orpington, but like the Buffs it occasionally comes in wings and tail.—Yours faithfully,

August 17, 1911.

H. SELLINGS.

MARKETS & MARKETING.

Week Ending July 22.

The exceptionally warm weather played great havoc among poultry supplies, and the wastage on the markets was very great indeed. The importance of speedy marketing was never more noticeable than during the past summer. On the whole, the markets were quiet, but trade was fairly good, and a pretty general clearance was effected.

Week Ending July 29.

The continuance of the great heat seriously affected the poultry market. Eggs were fairly plentiful, yet made a satisfactory price. Ducklings were abundant and cheap. Everything, save eggs, was low in price. Many consignments arrived in an unfit state for consumption, while those that succeeded in reaching the market in good condition had to be disposed of at once owing to the hot weather.

Week Ending August 5.

Poultry produce generally was plentiful, and as a consequence prices remained low. Really new-laid eggs were, however, the one exception, and were rather scarce, making good prices. Some venison arrived on the market in capital condition, and found a ready sale. A few English hares and leverets were shown.

Week Ending August 12.

Owing to the dockers' and carmen's strike the markets were practically empty, and no business of any note was carried on.

Week Ending August 19.

The trade in poultry produce improved greatly, and supplies were fairly plentiful, while values remained firm. There was, on the whole, an excellent clearance. Grouse were plentiful, and hares were present in fairly large numbers.

TRADE NOTICES.

An Attractive Catalogue.

We have received a copy of the new edition of Messrs. T. Craven and Sons' catalogue, and a very useful and interesting volume it is, containing no fewer than 124 pages, and freely illustrated throughout. Messrs. Craven supply practically everything the modern poultry-keeper can possibly require, from a poultry-house to a rubber egg stamp, and from an incubator or brooder to an egg box. The specialities are far too numerous to mention, and we advise our readers to secure a copy of this useful book.

Owing to rapidly increasing business Messrs. Craven and Sons have lately opened commodious premises at 273, Gray's Inn Road, London, where there is held a large stock of appliances of all descriptions.

A Useful Addition.

The value of the telephone is very great indeed to those who live in the country, and to poultry-keepers particularly is it of service. Mr. W. Holmes Hunt, of Hellingly, Sussex, informs us that he has just had the telephone laid on to his farm, so as to be able to get into touch quickly with his many customers. His number is Hailsham 23.

TABLE OF PRICES REALISED FOR HOME, COLONIAL, AND FOREIGN POULTRY, GAME, AND EGGS DURING THE FOUR WEEKS ENDING AUG. 19, 1911.

ENGLISH POULTRY—LONDON MARKETS.					FOREIGN POULTRY—LONDON MARKETS.				
DESCRIPTION.	1st Week.		2nd Week.		3rd Week.		4th Week.		Turkeys, Per lb.
	Each.	Each.	Each.	Each.	Each.	Each.	Each.		
Surrey Chickens	2/6 to 4/6	2/6 to 4/6	2/6 to 4/6	2/6 to 4/6	2/6 to 4/6	2/6 to 4/6	2/6 to 4/6	—	—
Sussex "	2/6 " 4/6	2/6 " 4/6	2/6 " 4/6	2/6 " 4/6	2/6 " 4/6	2/6 " 4/6	2/6 " 4/6	—	—
Yorkshire "	2/0 " 3/6	2/0 " 4/0	2/0 " 3/6	2/0 " 4/0	2/0 " 3/6	2/0 " 3/6	2/0 " 3/6	—	—
Boston "	2/0 " 3/6	2/0 " 4/0	2/0 " 3/6	2/0 " 4/0	2/0 " 3/6	2/0 " 3/6	2/0 " 3/6	—	—
Essex "	2/0 " 3/6	2/0 " 4/0	2/0 " 3/6	2/0 " 4/0	2/0 " 3/6	2/0 " 3/6	2/0 " 3/6	—	—
Capons	5/0 " 5/6	4/6 " 5/6	5/0 " 5/6	4/6 " 5/6	4/6 " 5/6	4/6 " 5/6	4/6 " 5/6	—	—
Irish Chickens	1/6 " 3/0	1/9 " 3/0	1/6 " 3/0	1/9 " 3/0	1/6 " 2/9	1/6 " 2/9	1/6 " 2/9	—	—
Live Hens.....	1/6 " 2/3	1/6 " 2/3	1/6 " 2/3	1/6 " 2/3	1/6 " 2/4	1/6 " 2/4	1/6 " 2/4	—	—
Aylesbury Ducklings.	1/9 " 3/0	1/6 " 2/9	1/9 " 3/0	1/6 " 2/9	2/0 " 3/0	2/0 " 3/0	2/0 " 3/0	—	—
Ducks	1/6 " 2/3	1/6 " 2/0	1/6 " 2/3	1/6 " 2/0	1/6 " 2/0	1/6 " 2/0	1/6 " 2/0	—	—
Geese	4/6 " 6/0	4/6 " 6/0	4/6 " 6/0	4/6 " 6/0	4/6 " 5/6	4/6 " 5/6	4/6 " 5/6	—	—
Poussins	1/4 " 1/8	1/4 " 1/8	1/4 " 1/8	1/4 " 1/8	1/4 " 1/8	1/4 " 1/8	1/4 " 1/8	—	—
Guinea Fowls	2/6 " 3/0	2/6 " 3/0	2/6 " 3/0	2/6 " 3/0	—	—	—	—	—
ENGLISH GAME—LONDON MARKETS.					IMPORTS OF POULTRY AND GAME. MONTH ENDING JULY 31 1911.				
DESCRIPTION.	1st Week.		2nd Week.		3rd Week.		4th Week.		Declared Values.
	Each.	Each.	Each.	Each.	Each.	Each.	Each.		
Grouse	—	—	—	—	—	—	—	—	Poultry.
Partridges.....	1/8 to 1/9	—	—	—	2/0 to 3/3	—	—	—	£3,944
Pheasants	—	—	—	—	—	—	—	—	£2,743
Black Game	1/0 " 1/3	—	—	—	—	—	—	—	—
Hares	—	1/3 to 2/6	—	—	—	—	—	—	—
Rabbits, Tame	1/3 " 2/6	1/0 " 2/0	—	—	—	—	—	—	—
" Wild	—	—	—	—	1/3 to 2/9	—	—	—	£4,337
Pigeons, Tame	—	—	—	—	1/0 " 2/6	—	—	—	—
" Wild	—	—	—	—	—	—	—	—	—
Wild Duck	—	—	—	—	—	—	—	—	—
Woodcock	—	—	—	—	—	—	—	—	—
Venison.....	4 to 7 lb.	5 to 7 lb.	—	—	—	—	—	—	—
Plover	—	—	—	—	1/3 " 2/0	—	—	—	—
					5 to 7 lb.	—	—	—	—
ENGLISH EGGS.					IMPORTS OF EGGS. MONTH ENDING JULY 31, 1911.				
MARKETS.	1st Week.		2nd Week.		3rd Week.		4th Week.		Declared Values.
	Per 120.	Per 120.	Per 120.	Per 120.	Per 120.	Per 120.	Per 120.		
LONDON	8/6 to 10/0	8/6 to 10/0	8/6 to 10/0	9/0 to 10/0	—	—	—	—	Quantities in Gt. Hund.
Provinces	—	—	—	—	—	—	—	—	Declared Values.
MANCHESTER	1/0	1/0	1/0	1/0	—	—	—	—	—
BRISTOL	1/0	1/0	1/0	1/0	—	—	—	—	—

Mr. W. H. Cook's Exports.

During the past few weeks William H. Cook, of the Model Poultry Farm, St. Paul's Cray, Kent, has shipped the following birds to clients abroad, many of them being repeat orders: One Black and one Buff Orpington cock, to M. Raquet, Somme, France; thirty-six White Leghorns, to M. E. Artur, Toulon, France; one cock and two Buff Orpingtons, and one cock and two White Orpingtons, to Killarney, Manitoba; one cock and six Buff Orpingtons, to M. Lecomte, Biarritz; twenty-five Buff Orpington eggs, to Mr. J. Case, Federated Malay States; one cock and two Buff Orpingtons, to Killarney, Manitoba; twelve White Leghorns, to E. Artur, Toulon, France; one cock and six Buff Orpingtons, one cock and six Indian Game, one cock and six Dark Dorkings, one cock and two White Leghorns, one drake and three Aylesburys, one drake and three Pekins, to Brandsbek, Germany; two cocks and ten White Orpingtons, two cocks and twelve Buff Orpingtons, one drake and two Indian Runners, to Costa Rica; one cock and three Buff Cochins, two cocks and six Buff Orpingtons, to Rio, Brazil; two cocks and four Black Orpingtons, two cocks and four White Orpingtons, two cocks and four Buff Orpingtons, two cocks and four Barred Rocks, and two cocks and four Buff Wyandottes, to Rio, Brazil; one cock and two White Orpingtons, two cocks and ten White Orpingtons, two cocks and six White Orpingtons, to Buenos Ayres, Argentine; one cock and two Minorcas, and one cock and two Leghorns, to Maceio, South America; one cock and two White Dorkings, one cock and two White Orpingtons, one cock and two White Wyandottes, one cock and two White Cochins, to Kobe, Japan.

Mr. Tamlin's Exports.

The following is a list of W. Tamlin's exports for July 1911: Twelve 30 incubators, twelve 60 incubators, twelve 100 incubators, six 60 foster-mothers, to J. F. Marshall, Johannesburg, agent for the Transvaal; twenty 100 incubators, ten 60 incubators, to A. Newcomb and Co., Auckland, agent for New Zealand; one 60 incubator and one 60 foster-mother, to A. E. Izzard, New Zealand; three Feltham poultry-houses, to Mrs. E. Olin, Belgium; two 60 incubators, to Mr. G. Chapman, Monte Video; one 100 incubator, to T. Dwyer, Buenos Ayres; one 60 incubator, to A. P. Kilvington, Barbadoes; one 100 incubator, to W. King, Demerara; one 60 incubator and one 60 foster-mother, to Miss Wolfe, Yokohama; one 100 incubator, to Thos. Davey, Rio de Janeiro; one 30 and one 60 incubator, to A. B. Williams, Philadelphia; one 60 incubator and one 60 foster-mother, to P. R. Burton, Mossel Bay, South Africa; and one 100 incubator, to A. Cornock, Delagoa Bay, South Africa.

British and Foreign Perfumes.

It is a mistake to suppose that the manufacture of perfumes is essentially a foreign art. While it is true that many of the ingredients used by perfumers are gums and spices which come from the East, British manufacturers are quite to the forefront in preparing these, and have in addition many perfumes which are almost peculiar to this country. One of these is the famous lavender, which is the favourite perfume of Queen Alexandra, and perhaps the most popular form in which it is found is in smelling salts. The Crown Lavender Salts, which are made only by the Crown Perfumery Co., of London, possess not only the delightful fragrance of English lavender, but have stimulating and refreshing properties of their own which are not found in other salts. The Crown Lavender Salts are those put up in the familiar green bottles with crown-shaped stoppers.

Owing to several important notes reaching us just as we are going to press, we have to omit "Answers to Correspondents." We are, however, replying to all by post.

OUR BOOK MARKET.

Any of the following books will be supplied at the prices named. Cash must always accompany orders.

Amateur Poultry-Keeper. By W. M. ELKINGTON. 120 pages. Fifteen illustrations. Price, 1/2 post free.

Incubators and their Management. By J. H. SUTCLIFFE. Fifth Edition. Illustrated. Price, post free, 1/2.

Lett's Poultry-Keeper's Account Book. Edited by LEWIS WRIGHT. Cr. 8vo. Post free in the United Kingdom, the Colonies, and foreign countries, 2/8.

Poultry and Egg Raising at Home. By W. M. ELKINGTON. Illustrated. Price, post free, 1/2.

Poultry Culture for Profit. By Rev. T. W. STURGES, M.A. Third Edition. Cr. 8vo, 134 pages. Fully illustrated. Post free in the United Kingdom, the Colonies, and foreign countries, paper covers, 1/3; cloth, 1/9.

Poultry Fattening. By EDWARD BROWN, F.L.S. Fifteen illustrations, 120 pages. Price, 1/2 post free.

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Poultry-Keeping as an Industry for Farmers and Cottagers. By EDWARD BROWN, F.L.S., Secretary of the National Poultry Organisation Society. Sixth Edition. 4to, 206 pages, fully illustrated. Post free in the United Kingdom, 6/6; 6/9 to the Colonies and foreign countries.

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Report on the Second National Poultry Conference, 1907. Edited by EDWARD BROWN, F.L.S. 382 pages, with nine illustrations. Post free in the United Kingdom, 5/6; in the Colonies and foreign countries, 6/-.

The Practical Poultry-Keeper. By LEWIS WRIGHT. Cr. 8vo, 320 pages, with eight coloured plates and other illustrations. Post free in the United Kingdom, 3/10; 4/- to the Colonies and foreign countries.

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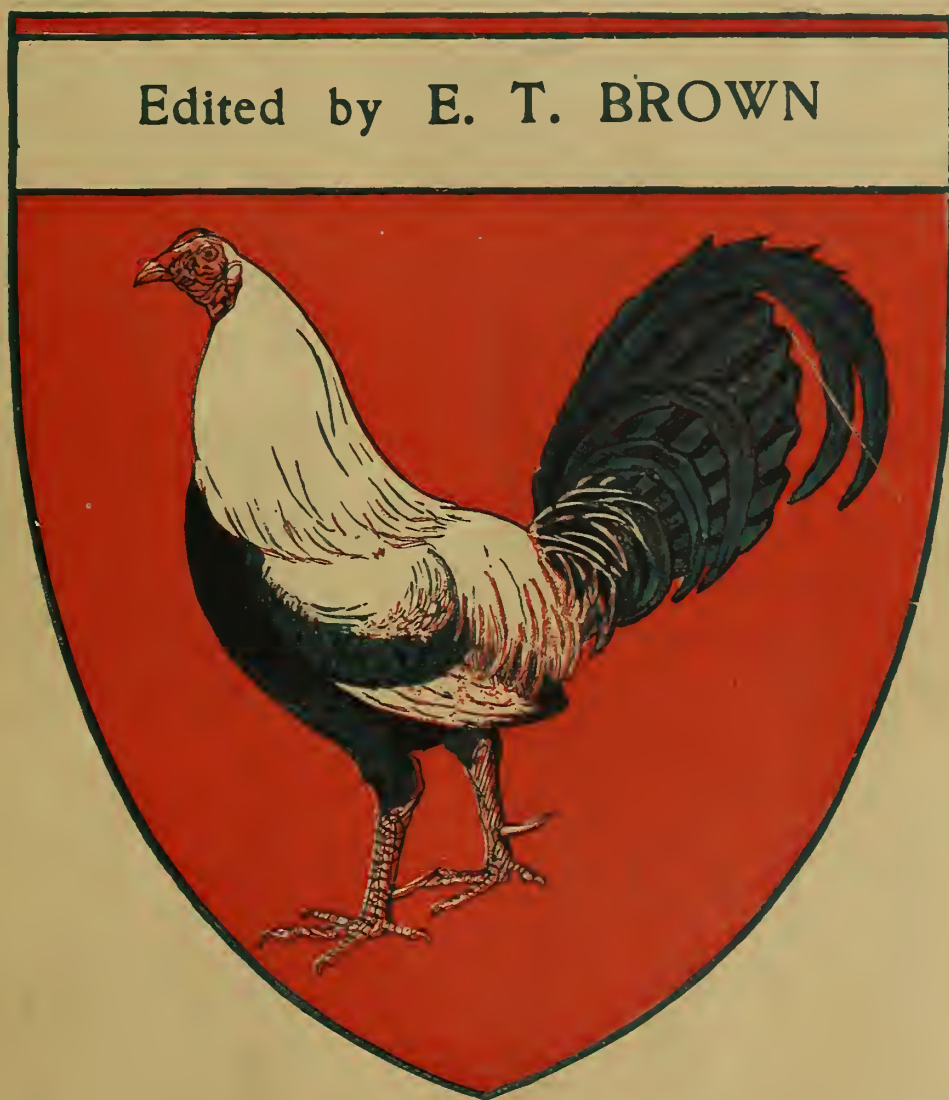
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OCTOBER, 1910.

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April 29, 1910.—Mr. Art C. Gilbert. —Sir,—I feel sure you will be glad to know that Mr. Champion, jun., showed the White Wyandottes which I had from you on Dec. 23 last, at the recent Johannesburg Show, and took three 1sts, a 2nd, and a v.h.c., so he did fairly well. He only exhibited five birds. It is a great encouragement to him.—Yours, T. A. C., South Africa.

Dec., 1909.—Dear Mr. Gilbert,—With birds I had from you I won at Utrecht Show the Queen's medal for best Orpington in show, and over 20 first prizes. Am well pleased, and shall recommend your supplies.—Yours truly, WM. VAN HERZEELE, 2, Boschkant, The Hague, Holland.

Dear Sir,—I am pleased with birds reared from the sitting of eggs bought from you. Jubilee Orps. they have won 1st at the Dairy Show, 2nd Crystal Palace, 1st Club Show, 1st and 2nd Bromley, and other money prizes, &c.—Yours truly, R. LUSH, Nightingale-lane, Bromley, Kent, England.

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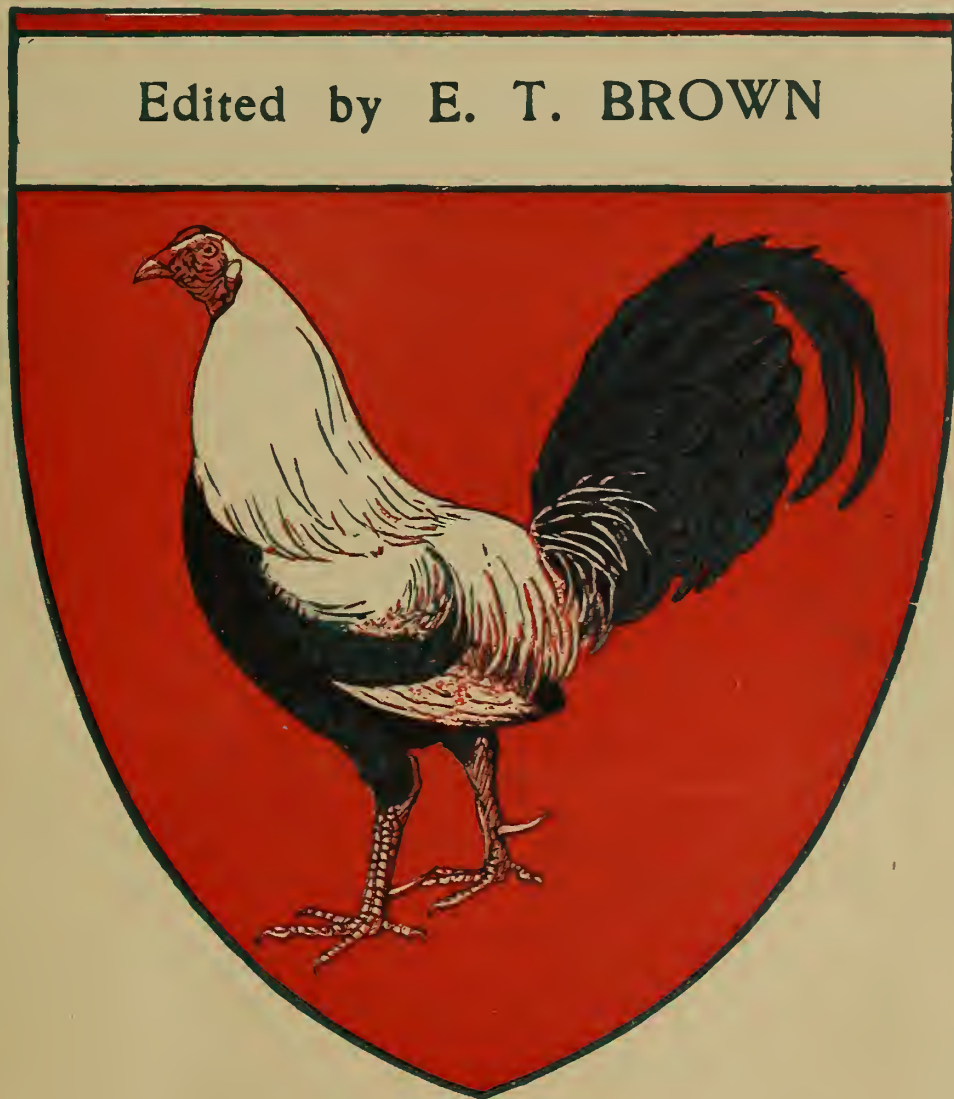
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BLACK	2 2 0	1 1 0
BUFF	2 2 0	1 1 0
CUCKOO	2 2 0	1 1 0
SPANGLED	2 2 0	1 1 0
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BLACK	2 2 0	1 1 0
BUFF	2 2 0	1 1 0
CUCKOO	2 2 0	1 1 0
SPANGLED	2 2 0	1 1 0
JUBILEE	2 2 0	1 1 0

WYANDOTTES.

	No. 1.	No. 2.
	£ s. d.	£ s. d.
WHITE	1 1 0	0 10 0
SILVER	1 1 0	0 10 0
COLUMBIAN	0 10 0	—
GOLDEN	0 10 0	—

DUCKS.

	No. 1.	No. 2.
	£ s. d.	£ s. d.
BUFF ORPINGTON	1 1 0	0 10 6
BLUE ORPINGTON	1 1 0	0 10 6
AYLESBURY	1 1 0	0 10 6
INDIAN RUNNER	0 10 0	—
ROUEN	1 1 0	0 10 6

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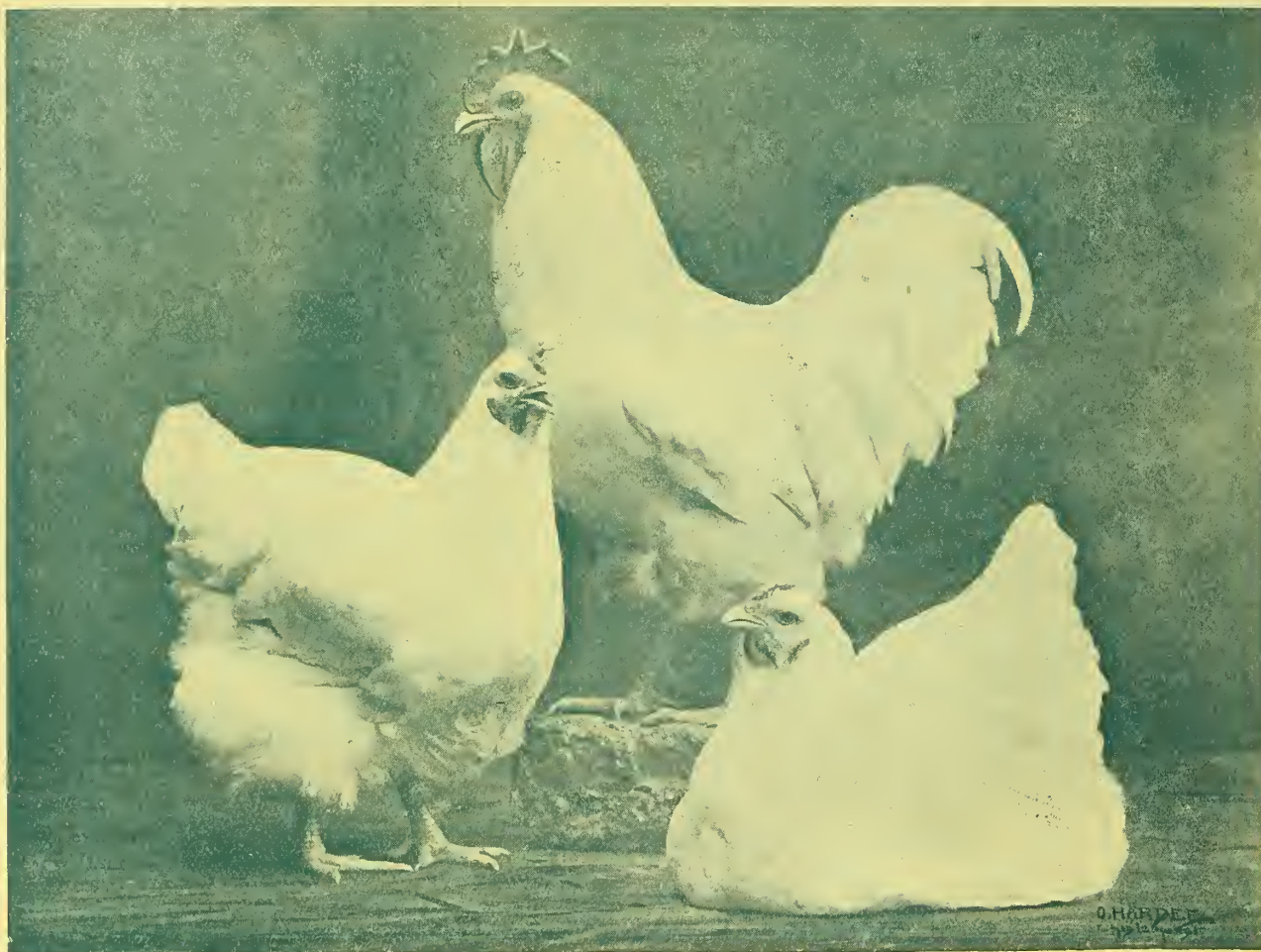
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	£ s. d.					£ s. d.					s. d.					£ s. d.					£ s. d.					s. d.				
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	WHITE	2	2	0	1	1	0	10	0	BLUE ORPINGTON	1	1	0	0	10	6	—	—				
	BLACK	2	2	0	1	1	0	10	0	AYLESBURY	1	1	0	0	10	6	—	—				
	BUFF	2	2	0	1	1	0	10	0	INDIAN RUNNER	0	10	0	—	—	—	—					
	CUCKOO	2	2	0	1	1	0	10	0	ROUEN	1	1	0	0	10	6	—	—				
	SPANGLED	2	2	0	1	1	0	10	0																	
	JUBILEE	2	2	0	1	1	0	10	0																	
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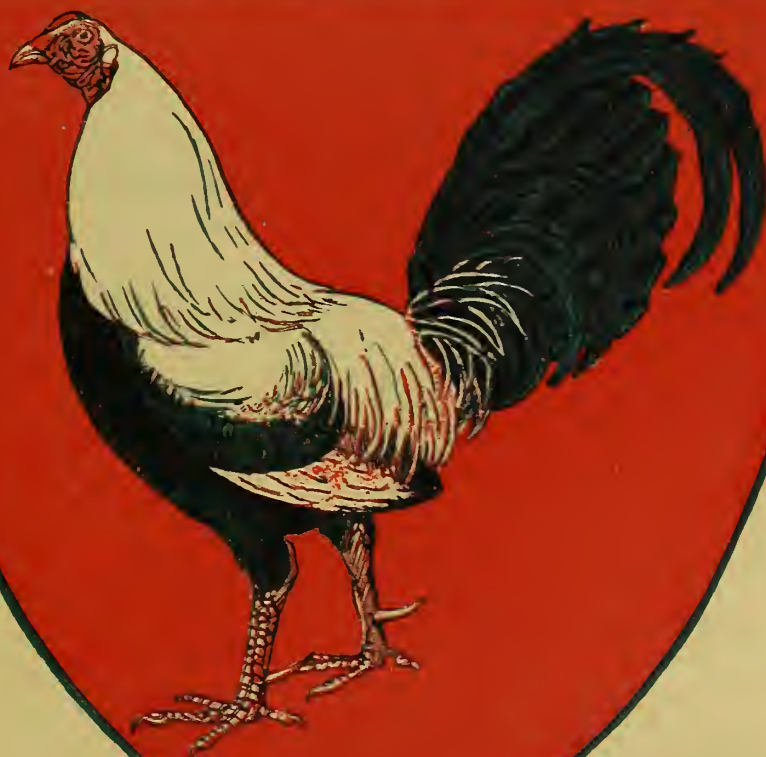
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BLACK	2 2 0	1 1 0	10 0
BUFF	2 2 0	1 1 0	10 0
CUCKOO	2 2 0	1 1 0	10 0
SPANGLED	2 2 0	1 1 0	10 0
JUBILEE	2 2 0	1 1 0	10 0

WYANDOTTES.

	No. 1.	No. 2.	No. 3.
	£ s. d.	£ s. d.	s. d.
WHITE	1 1 0	0 10 0	—
SILVER	1 1 0	0 10 0	—
COLUMBIAN	0 10 0	—	—
PARTRIDGE	0 10 0	—	—

DUCKS.

	No. 1.	No. 2.	No. 3.
	£ s. d.	£ s. d.	s. d.
BUFF ORPINGTON ...	1 1 0	0 10 6	6 0
BLUE ORPINGTON ...	1 1 0	0 10 6	—
AYLESBURY	1 1 0	0 10 6	—
WHITE INDIAN RUNNER	0 10 0	—	—
ROUEN	1 1 0	0 10 6	—

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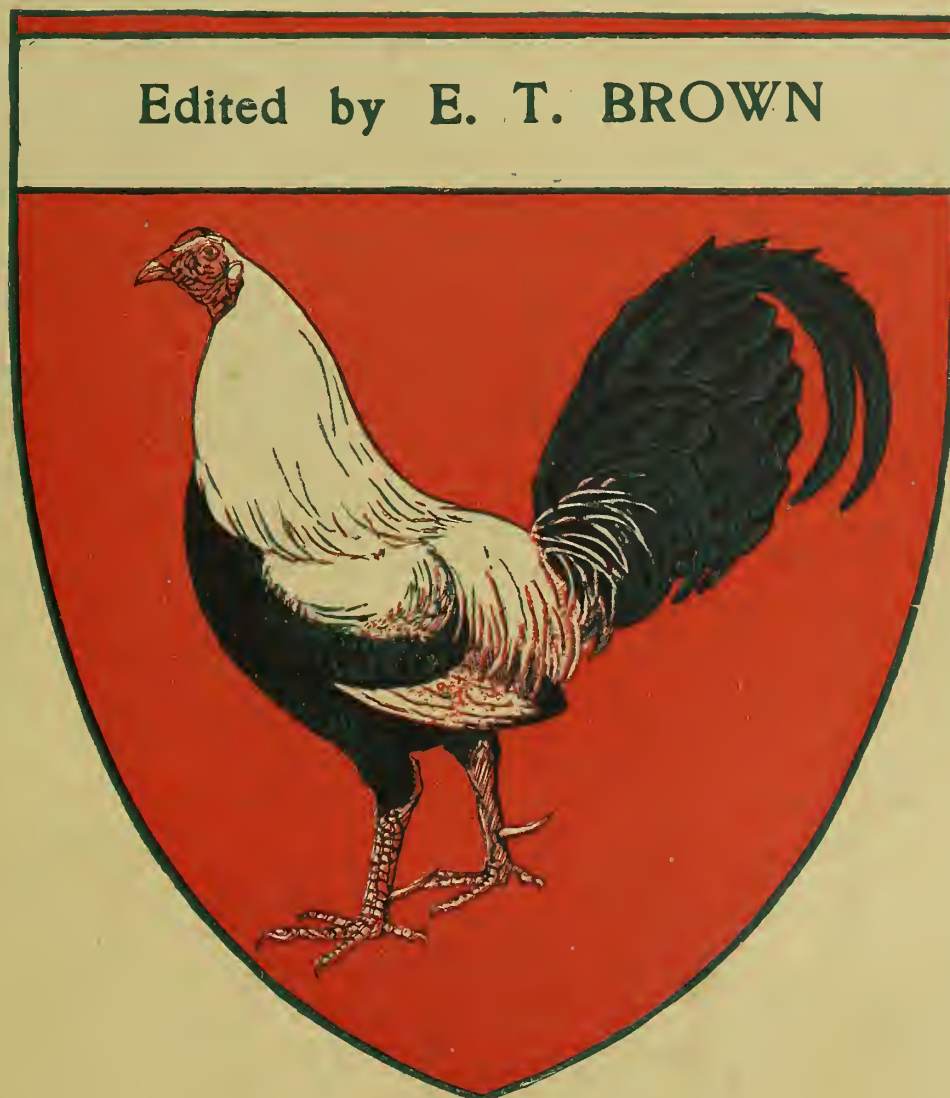
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BLUE	10 10 0	5 5 0	—
WHITE	2 2 0	1 1 0	10 0
BLACK	2 2 0	1 1 0	10 0
BUFF	2 2 0	1 1 0	10 0
CUCKOO	2 2 0	1 1 0	10 0
SPANGLED	2 2 0	1 1 0	10 0
JUBILEE	2 2 0	1 1 0	10 0

WYANDOTTES.

	No. 1.	No. 2.	No. 3.
	£ s. d.	£ s. d.	s. d.
WHITE	1 1 0	0 10 0	—
SILVER	1 1 0	0 10 0	—
COLUMBIAN	0 10 0	—	—
PARTRIDGE	0 10 0	—	—

DUCKS.

	No. 1.	No. 2.	No. 3.
	£ s. d.	£ s. d.	s. d.
BUFF ORPINGTON ...	1 1 0	0 10 6	6 0
BLUE ORPINGTON ...	1 1 0	0 10 6	—
AYLESBURY	1 1 0	0 10 6	—
WHITE INDIAN RUNNER	0 10 0	—	—
ROUEN	1 1 0	0 10 6	—

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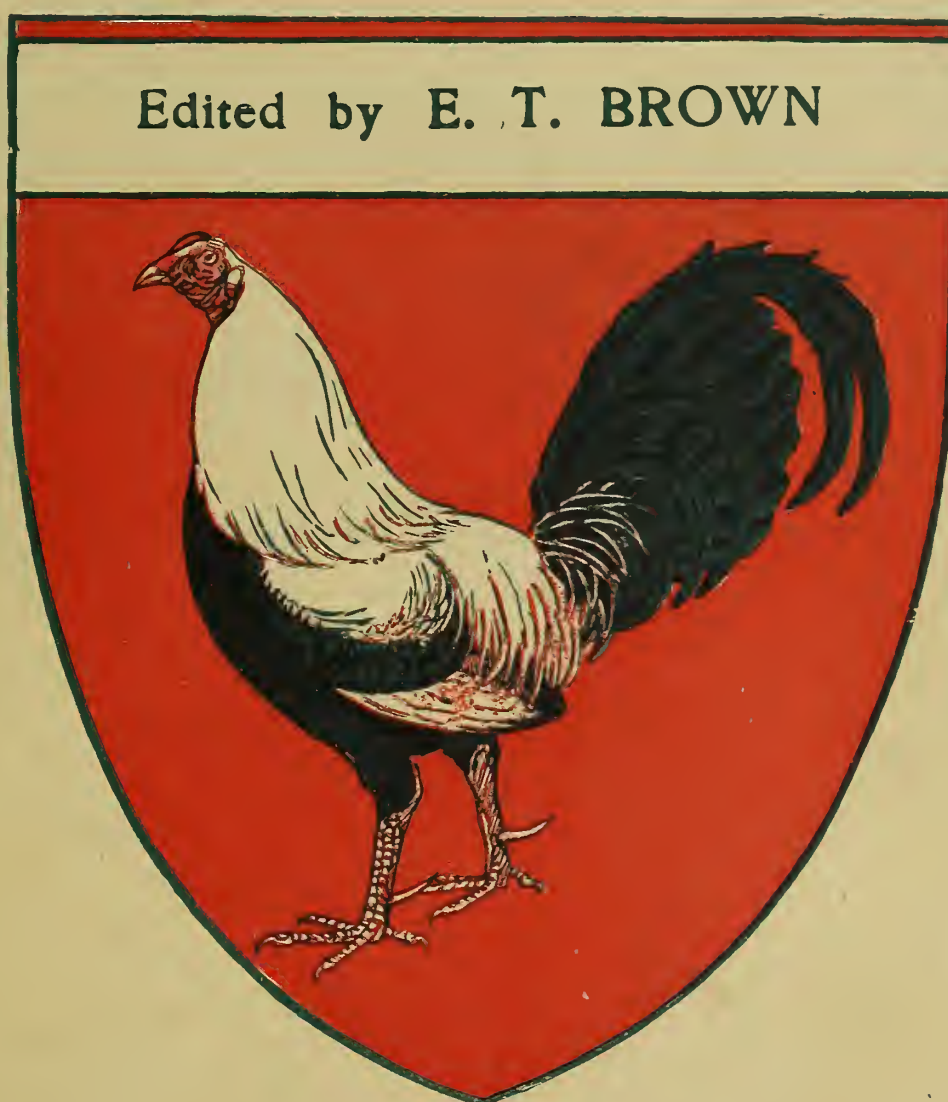
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	£ s. d.	£ s. d.	s. d.
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WHITE ...	1 1 0	0 10 0	5 0
BLACK ...	1 1 0	0 10 0	5 0
BUFF ...	1 1 0	0 10 0	5 0
CUCKOO ...	1 1 0	0 10 0	5 0
SPANGLED ...	1 1 0	0 10 0	5 0
JUBILEE ...	1 1 0	0 10 0	5 0

WYANDOTTES.

	No. 1.	No. 2.	No. 3.
	£ s. d.	£ s. d.	s. d.
WHITE ...	1 1 0	0 5 0	—
SILVER ...	1 1 0	0 5 0	—
COLUMBIAN ...	0 10 0	0 5 0	—
PARTRIDGE ...	0 10 0	0 5 0	—

DUCKS.

	No. 1.	No. 2.
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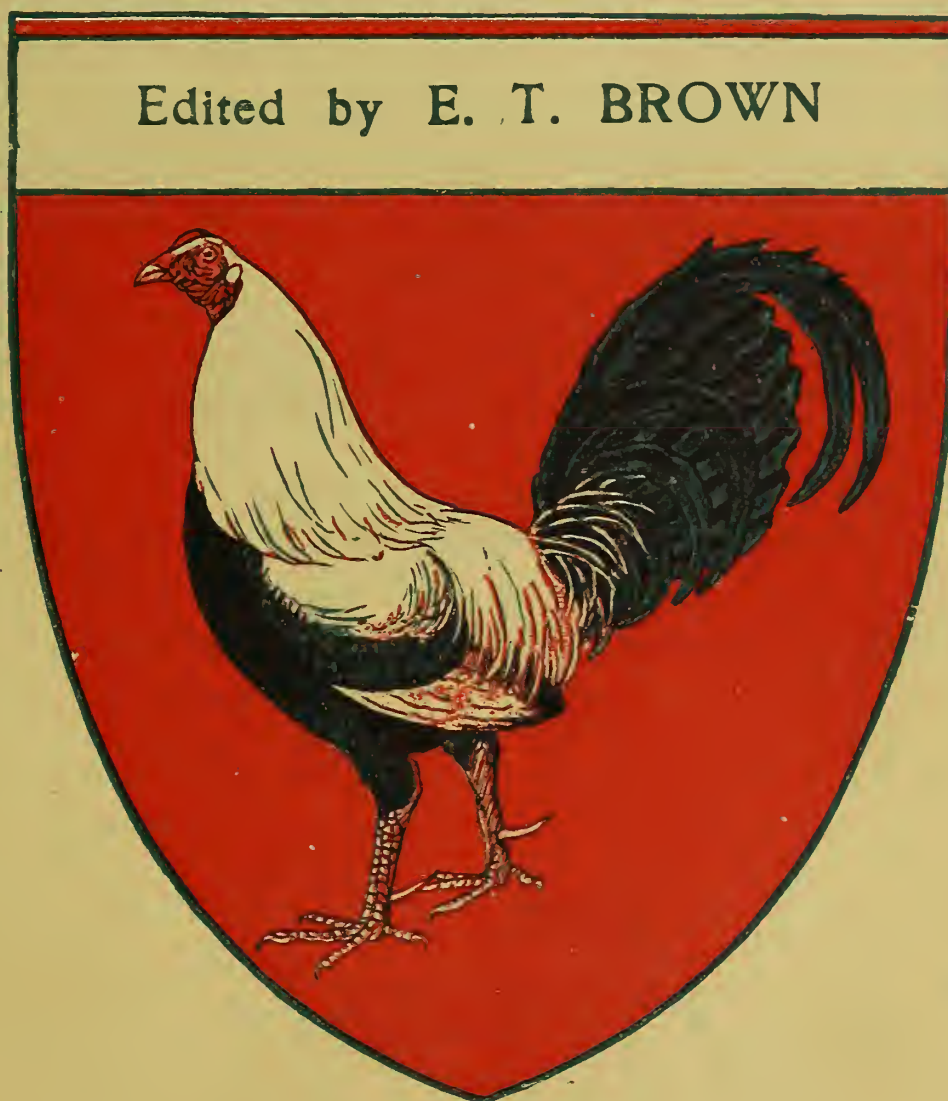
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NUMBER 8

MAY, 1911.

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WHITE	1 1 0	0 10 0	5 0
BLACK	1 1 0	0 10 0	5 0
BUFF	1 1 0	0 10 0	5 0
CUCKOO	1 1 0	0 10 0	5 0
SPANGLED	1 1 0	0 10 0	5 0
JUBILEE	1 1 0	0 10 0	5 0

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	No. 1.	No. 2.	No. 3.
	£ s. d.	£ s. d.	s. d.
WHITE	1 1 0	0 5 0	—
SILVER	1 1 0	0 5 0	—
COLUMBIAN	0 10 0	0 5 0	—
PARTRIDGE	0 10 0	0 5 0	—

DUCKS.

	No. 1.	No. 2.
	s. d.	s. d.
BUFF ORPINGTON	10 0	5 0
BLUE ORPINGTON	10 0	5 0
AYLESBURY	10 0	5 0
WHITE INDIAN RUNNER	10 0	—
ROUEN	10 0	5 0
INDIAN RUNNER	10 0	5 0

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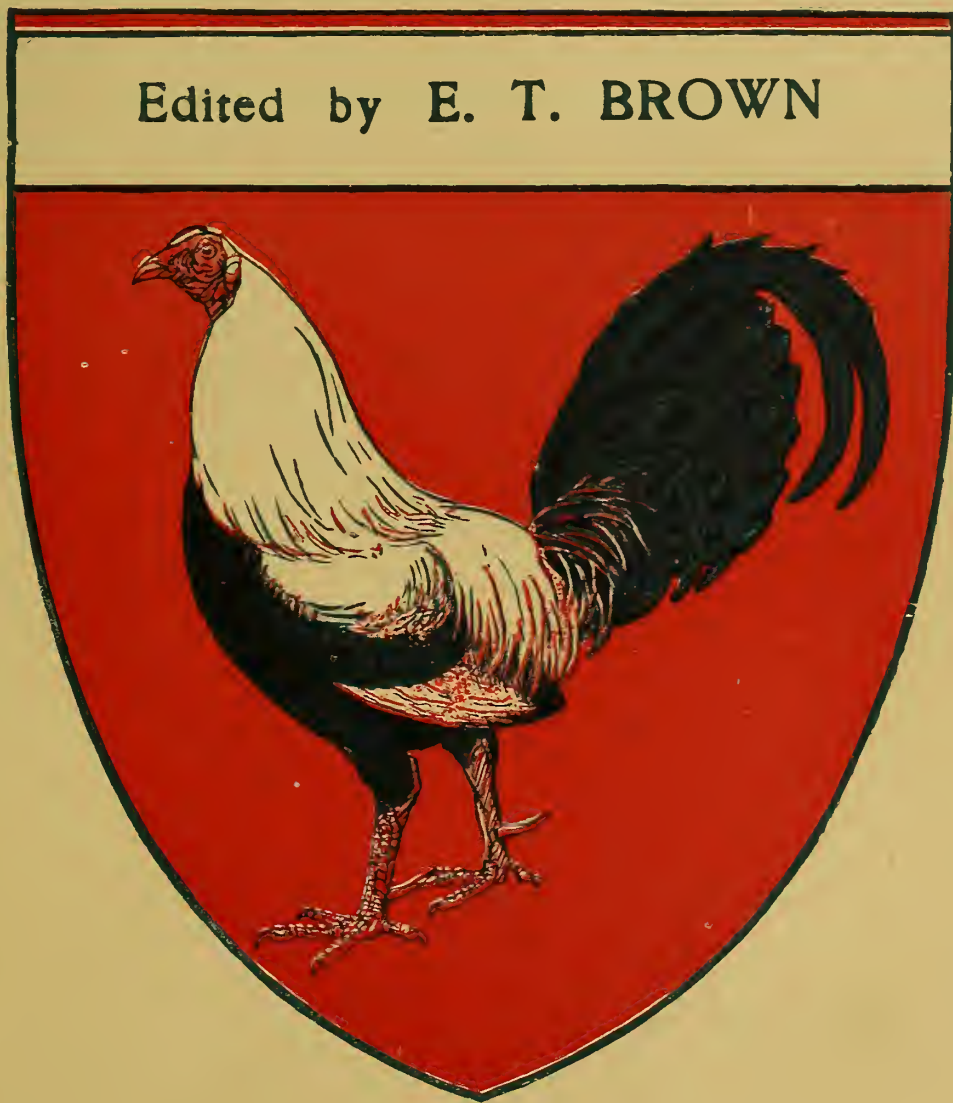
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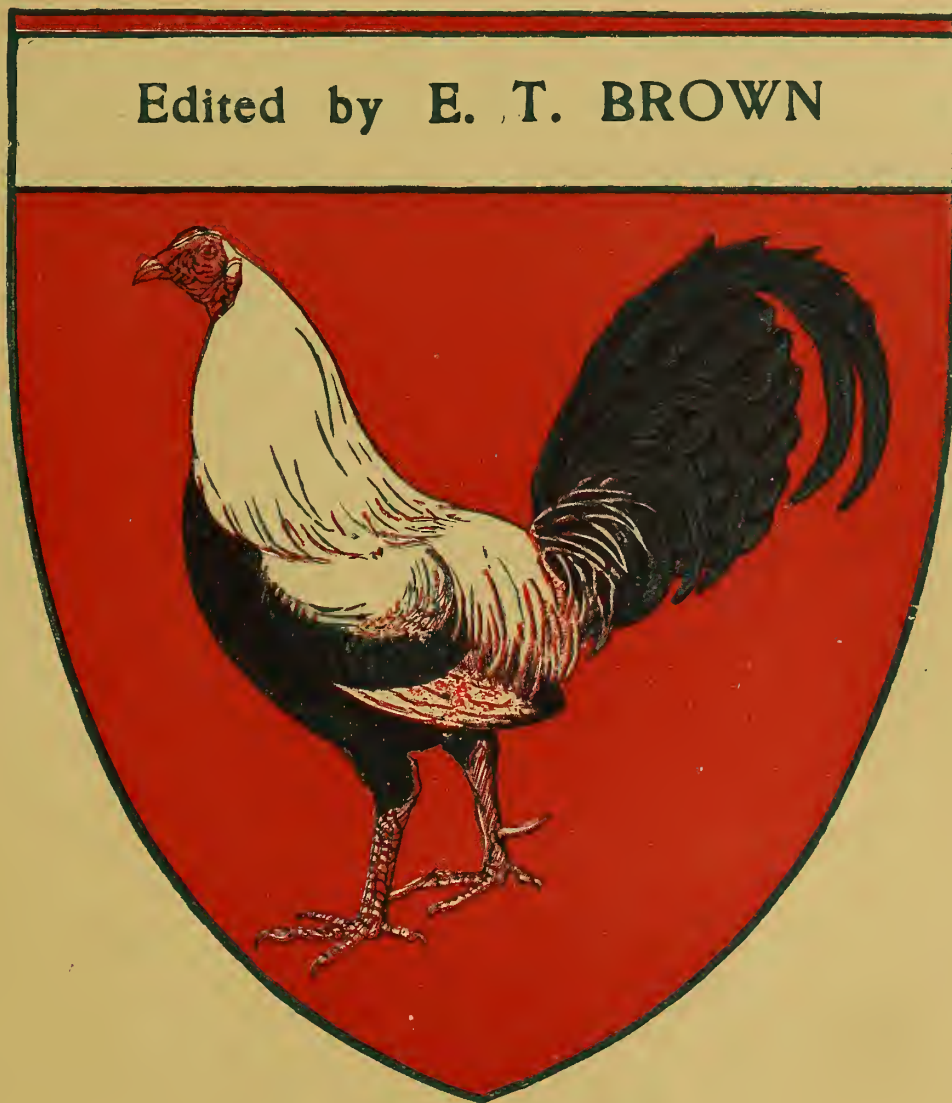
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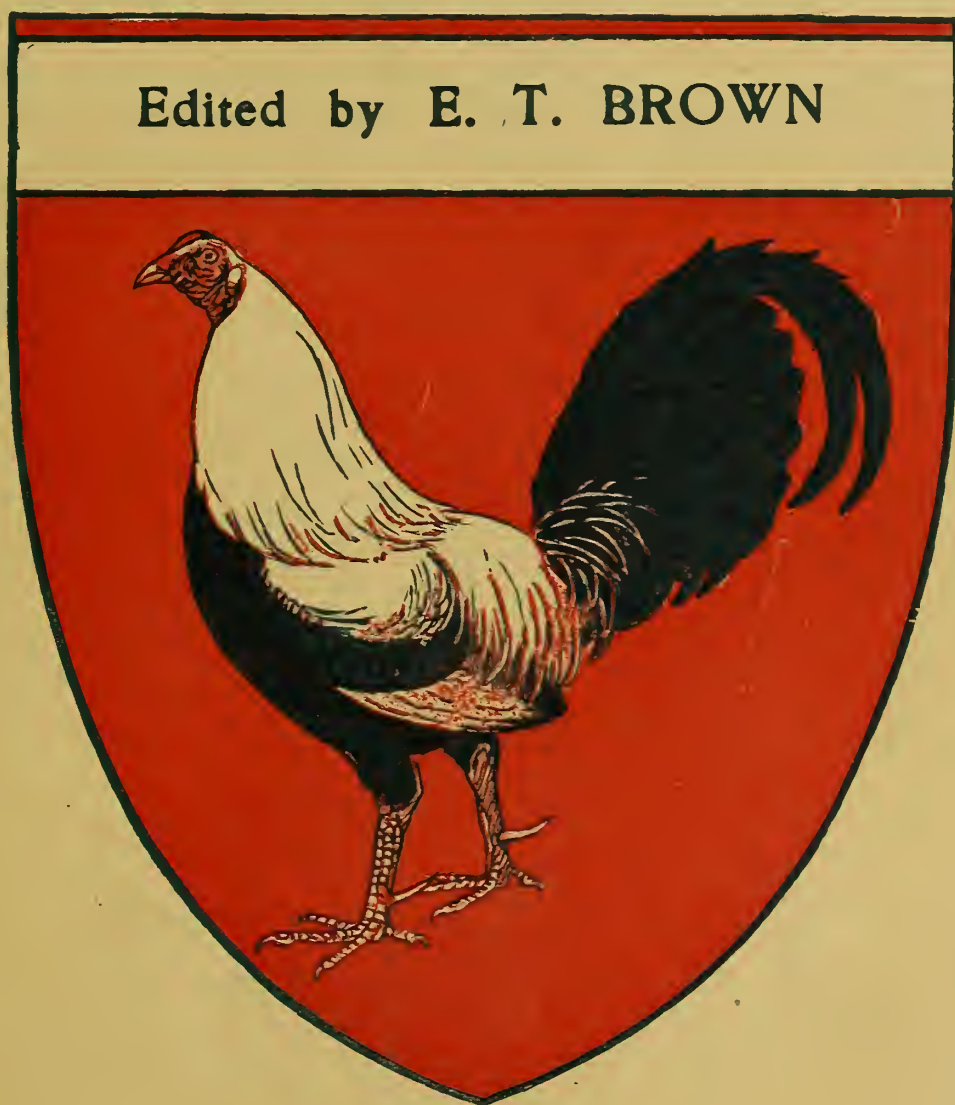
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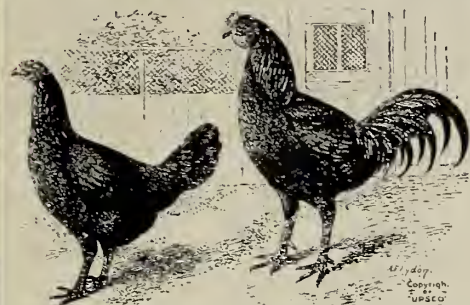
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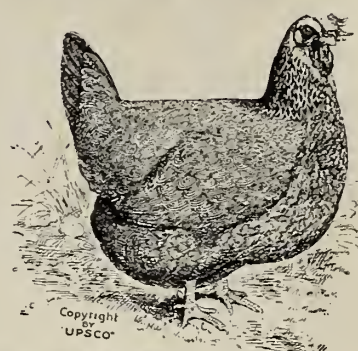
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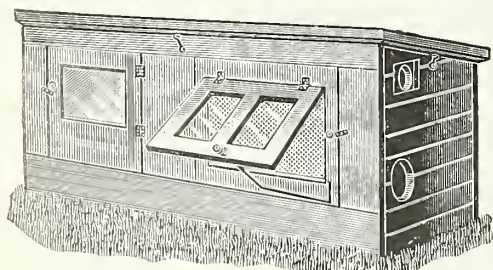
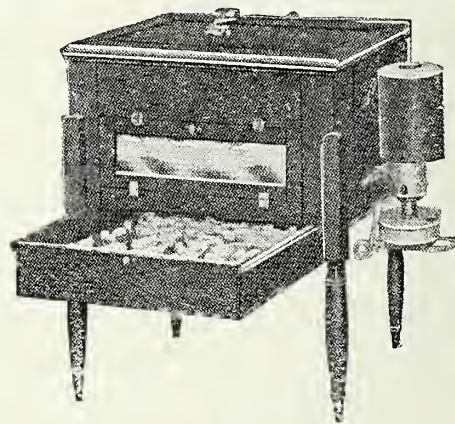
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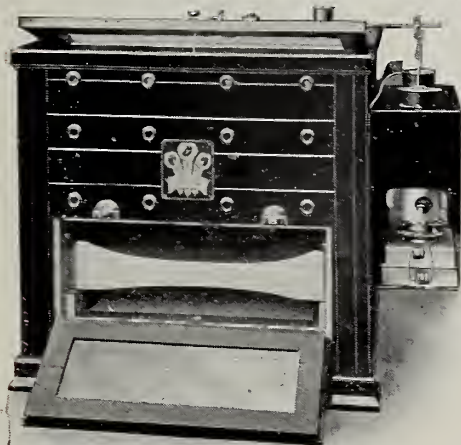
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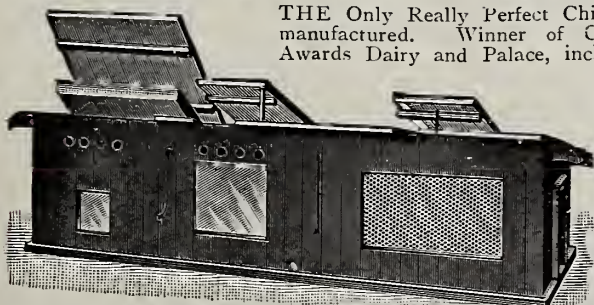
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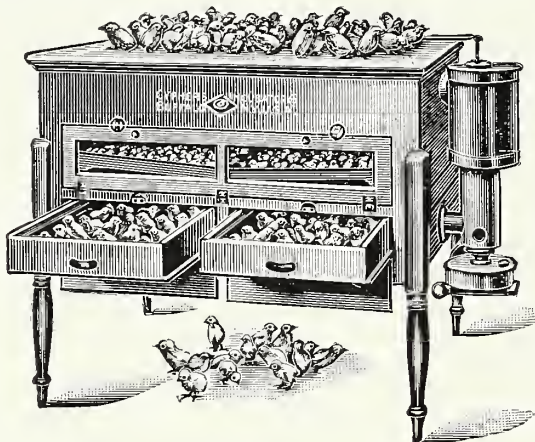
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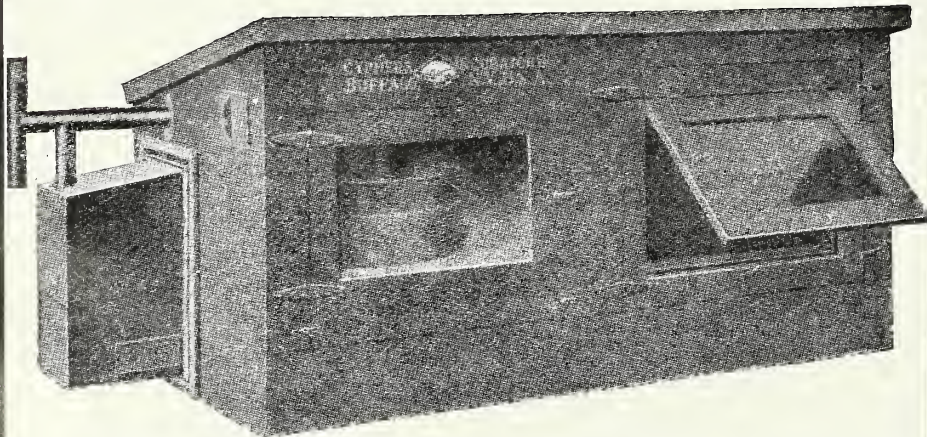


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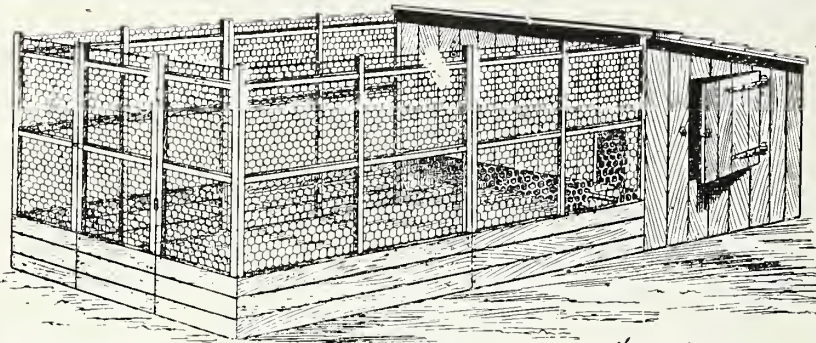
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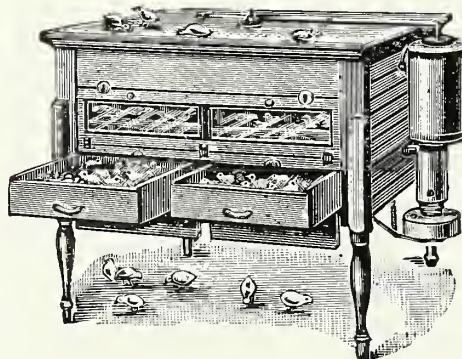
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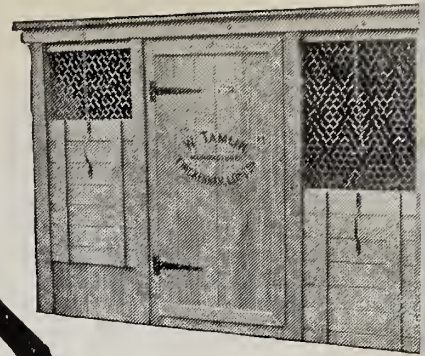
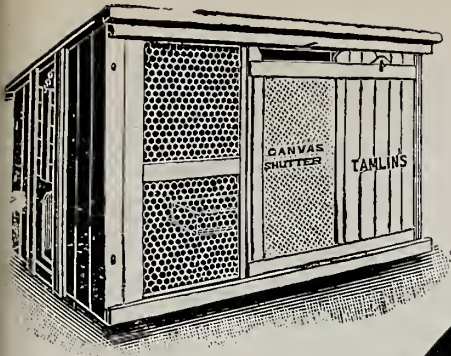
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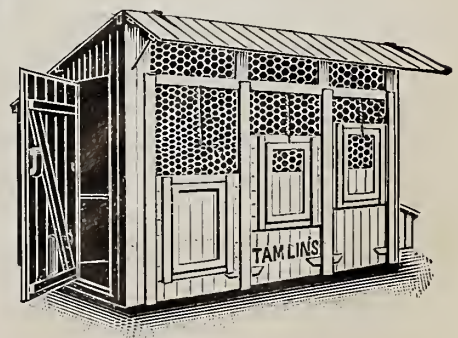
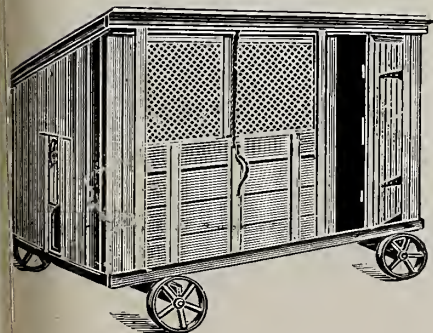
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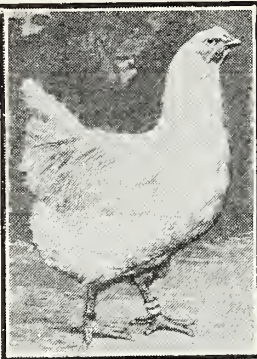
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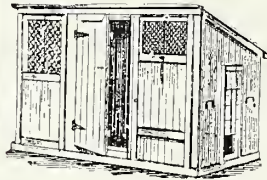
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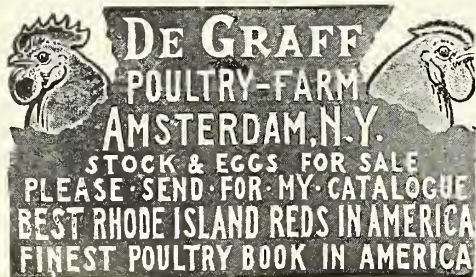
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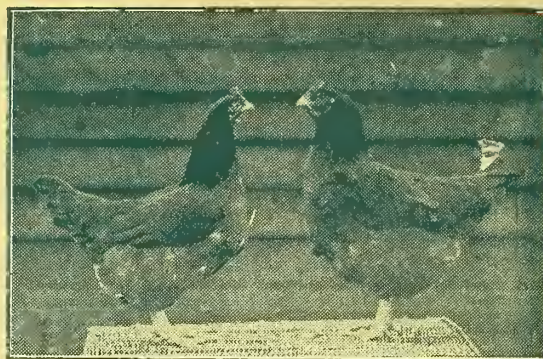


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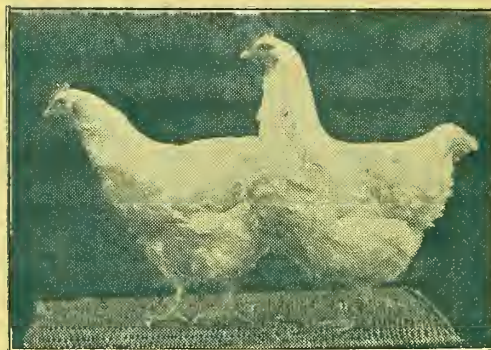
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